

THE  
LITERARY AND PHILOSOPHICAL  
REPERTORY :

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VOLUME II. NUMBER VI.  
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ORIGINAL PAPERS.

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MARINE PETRIFACTIONS.

*To the Conductor of the Repertory,*

According to previous intimations, I now communicate for your perusal, and, if you deem it expedient, for publication, an account of the extensive range of Marine Shells in the state of Georgia.

N. S. S. BEEMAN.

The extent of this range, I have not been able perfectly to ascertain. It is currently reported, that it may be distinctly traced in the state of South Carolina; and there is little or no doubt, that it extends through the low country of both the Carolinas and the state of Virginia. Many facts have been established relative to the *existence*, and many conjectures have been submitted to the publick respecting the *origin* of Marine Shells and petrifications, particularly in the latter state. In the Carolinas, much less attention has been devoted to the investigation of this subject.

In the state of Georgia, the range of shells, which is the subject of this communication, commences on the Savannah side at a place in the county of Burke, by the name of Shell Bluff. Its general direction through the state of Georgia, is N. East



and S. West ; subject however, to occasional and considerable deviations. It has long been a well authenticated fact, that these petrified Marine Shells extend across the whole state; and an intelligent friend, who was a surgeon in the late war under Gen. Jackson, assures me, that the same range may be traced through the Mississippi Territory.— Whether it cross the Mississippi river, and pass through Lower Louisiana is yet a matter of opinion. The conjecture that it does, is a very probable one. The distance from the sea in the state of Georgia is from 90 to 100 miles. Its breadth is from 1 to 10 rods, and it extends several yards below the surface of the earth.

The *texture* is various. At Shell Bluff, are found in a perfect state, and in great abundance, Marine Shells, which have not been subject to the process either of decomposition, or petrification. In other places they are formed into masses of solid rock. But a slight examination of the texture of this rock is sufficient to convince us, that almost the whole mass consists of the petrifications of sea shells. Clam, oyster, and an unnumbered variety of smaller shells, are, in many places, very distinct. In a large cave in these rocks near Sandersville, in the county of Washington, are found petrified *star-fish*, completely imbedded in the circumambient and superincumbent incrustations. The whole mass is bounded by a circle of about two and a half inches in diameter, and presents one horizontal plane as the base, while the upper surface gradually swells from the circumference towards the centre. These petrifications, from their size, form and appearance, have obtained the name of "*Sandersville biscuit*." One of them, which I took from this subterranean cavern in 1812, I lodged in Middlebury College Museum.

The consistency of these stones is various. In some pla-



ces they may be easily pulverized with the fingers, and appear like dirty lime; in others, they are sufficiently hard to form the best of mill stones. They are now preferred by adequate judges to the celebrated French Burr. It is only within a few years, that this discovery has been made, but the manufacture and exportation of this article have already become objects of publick utility and importance.

The stones are hewn out in small and detached pieces, and then fitted and cemented together; as it would be extremely difficult, if not absolutely impossible, to find an entire mass of sufficient extent, and of equal hardness, to form a millstone.

The water issuing from this ridge of petrifications is peculiarly clear and cold; but its taste is excessively offensive, and its operation on the system is considered unfriendly to health. To the physiologist, I leave the investigation of its deleterious principle. In some places where I have tasted it, it appeared to be tinctured with the putridity arising from the decomposition of its animal substances. Whether this was strictly *reality*, or whether association of ideas had considerable influence in the production of this effect, I will not undertake to determine.

One peculiar excellency of this stone, is its porous structure; which, while it presents sufficient surface for the mechanical operation of grinding, prevents it from exciting and retaining heat. The whole of this mass is capable of being converted into lime, but the quality is inferior to that obtained from the blue lime stone of the Eastern, or Western states, or from calcined shells. In some places these shells and rocks are carious, and are evidently undergoing a second change from decomposition. In the county of Washington, particularly, there are large cavities in the earth to the depth of 60 or 80 feet, and of many rods in circumfer-



ence, which were unquestionably produced by a gradual alteration in the fabrick of the subjected materials. These cavities have given, among the people of the country, the name of "LIME SINKS" to this entire range of petrifications.

Some conjectures respecting the probable origin of this stupendous curiosity, naturally present themselves in this place. Their amazing extent renders it absolutely impossible, that they should have been deposited there by any inconsiderable agents. In many parts of the world, no doubt, savages have carried large masses of sea fish to a distance from the ocean; but to suppose, that the materials for these petrifications could have been conveyed to their present bed by human hands, would be as preposterous as to suppose, that the Green Mountains originated from a constant accumulation of small pebbles deposited there by successive generations of natives.

There are but two theories which deserve a moment's attention;—these shells were thrown where they now lie, by some violent convulsion of nature, or this range once formed the margin of the ocean. The latter opinion is most probable. If these marine petrifications had been thrown here by earthquakes, or by the general deluge, or any revolution or concussion of the elements, they would have been scattered promiscuously over a considerable extent of country.—But this is not the case. The range is regular; and preserves much of the same direction as the Southern coast. The condition of this and the neighbouring states exhibits strong intimations, that the whole country, from the distance of 60 to 100 miles from the coast, was once the bosom of the ocean. In rainy seasons immense regions extending through Virginia, the Carolinas and Georgia, and to this we may add a great part of East and West Floridas, appear to be imperfectly redeemed from the dominion of the waters.



Another circumstance, which strongly marks out these shells as the former barrier of the ocean, is, that the country is considerably lower on their Eastern than their Western side. From these *data*, and a variety of others, which it is unnecessary to particularize, there can remain no ground for rational controversy, that the waves of the Atlantic were once stayed in their western progress by this appointed boundary of their rage.

Whether the recession of the ocean was gradual, or whether it was effected by some sudden convulsion, is a question leading to many curious speculations, and having many important and interesting relations with the history of the globe we inhabit. An American writer,\* more remarkable for his sprightly diction than his philosophical profundity, has given us an amusing theory of the origin of the Western bank. He supposes it manufactured by the currents of the ocean and of one of the moles of the Blue Ridge! Count de Buffon has written much more plausibly on the changes of the earth effected by the currents and counter currents of the sea. He supposes that there is a constant diminution of the Western side of continents by *abluvion*, while by *alluvion*, generated by the same cause, the Eastern side experiences a perpetual accumulation. Without receiving, or rejecting, this hypothesis in the gross, and without undertaking to determine how far these, or other causes, may operate in producing a gradual extension of territory on the Eastern coast of America;—I am still of the opinion, that the desertion of these marine shells by the waters of the Atlantic was effected *suddenly* and not by the lapse of ages. If there be an accumulation of land of this description, it is too slow in its progress to account for the change now under consideration. Since the discovery of this country by the

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\* The Author of "THE BRITISH SPY."



Europeans very little, if any sensible alteration has taken place; and on this principle to account for the formation of such an extent of territory, as is embraced between these shells and the ocean, we must form a *register of the birth of the earth* more extravagant than the records of China, and more preposterous than the fables of Egypt. Rejecting, then, the theory of gradual and insensible *alluvion* to which these accumulations on the Eastern coast have generally been attributed; it is no more than reasonable to expect that some other hypothesis should be substituted in its place. A change of this kind might easily have been effected by the Deluge; for however fashionable it may be, at the present day, for pretended, though superficial, philosophers to sneer at this wonderful phenomenon recorded by Moses, yet innumerable facts stare us in the face, which not only sufficiently accord with the scriptural narrative, but amount almost to a positive demonstration of the truth and authenticity of these records. But, however numerous these facts may be, and however satisfactory it might appear to attribute to this event the change in question, yet there are several reasons for embracing and defending another opinion. It is not the *possibility*, but the *probability* of this theory that I reject. Marine Shells deposited upon the summit of the lofty Alps, or the more majestick Andes;—the bones of Elephants and other equitorial animals buried many feet beneath the surface of the earth in the Northern regions of Europe, and other visible traces of the former presence of the ocean in almost every part of the globe, can be accounted for in no other way than by supposing the universality of the Deluge. But from the operation of such a *general cause* as the Deluge, no philosophical reason can be assigned why an accumulation of earth should be produced in this particular place; whereas, if we attribute it to the



agency of some *local convulsion*, difficulties will be less numerous, and the hypothesis, in all its relations, will be more satisfactory.

The peopling of this continent has always presented difficulties, which have never been solved. These difficulties are absolutely insuperable, particularly, as it respects the migration of animals peculiar to equatorial regions, unless we admit that South America and Africa were once united by an isthmus, which has been swept away at some period posterior to the Deluge. This supposition is so necessary to the history of the animal creation in this quarter of the globe, that it has been embraced, with very inconsiderable visible evidences in its favor, by all who have not sufficient faith or credulity to believe that men and beasts can be generated by the elements, or that they may spring like "reeds and rushes" out of the mire. It is necessary to suppose, that such a junction of continents once existed; and that the connecting isthmus was the bridge on which the South American Indians and the animals of their country passed from the Eastern to the Western world. Some of the *African* and *West India* Islands have long been considered as the remains of this isthmus;—but much stronger evidence of its actual existence results from the subject of this essay.

A connecting isthmus in this region would necessarily be exposed to imminent hazzard. The currents of the ocean created by the trade winds would gradually undermine its very foundation;—equinoctial storms wrought, by the violent and angry elements of the Torrid Zone, into hurricanes and tornados, would lash its shores and sweep its surface;—and the superaddition of a single earthquake would be sufficient to dissolve its structure and commit its wandering atoms to the drifting surges of the ocean. And the most



natural place of deposit for this Isthmus, thus torn from its basis and given to the waves, would be the southern coast of North America. The formation of South America, and the force of the trade winds would unite in giving it a western direction. The current of the ocean would be too strong and impetuous to suffer these itinerant particles to rest in the Gulph of Mexico; but a deposition would immediately commence, when counter currents were formed between the Gulph stream and the continent. And here our theory accords with matter of fact. The most extensive formation of territory is on the coast of the Floridas, and this gradually diminishes as you pass through Georgia, the Carolinas and Virginia.

Let it be added here, that all the low country of the Southern States is almost entirely composed of a light fine sand;—and an isthmus of these materials would be peculiarly subject to the revolution we have supposed.

All these facts combined together induce the belief, that the very ground, which is now pressed by the foot of the southern planter, was once trodden by the beasts of South America, and the remote ancestors of the Peruvians and Mexicans in their emigration across the Atlantic.



*The danger and folly of book-learning without an experimental acquaintance with the world, illustrated in a letter from a gentleman in London to his friend in this place.*

LONDON, AUG. 1815.

DEAR SIR,

I have long doubted, whether the human mind, owing to its aberrations, is ever seen in its true place. An opportunity has just been afforded me, in the literary society with



which I have before made you partially acquainted, of viewing it in a most ridiculous light. We have lately initiated, in due form, one of the oddest geniuses, I think, I ever knew. Compared with him, the haughty, morose, snarling Diogenes, enthroned in his tub, was a paragon of cheerfulness; Plato, in his loftiest flight, a mere drone; and the great Father Stockenbergius, immortalized by his noble disquisition on noses, was a perfect novice. He is not a petty satellite of Grub-street. With a few scattering rays, the forerunners of his bright appearance, he had enlivened our metropolis; but, when divested of his college gown, he emerged from his chambers at Oxford, like the sun from the ocean and posted off, a dogmatick bachelor, direct for London, to dazzle our citizens with the *full* blaze of his talents. Buried alive among his books, he had been known to the world only by proxy. Fame told where and what he was, and his slender store of self knowledge was furnished only by the returning echo; or, to use the words of our favourite poet, he was

“Deep vered in books and shallow in himself.”

He had triumphed in all the college honours, and had sustained the dignity of a *senior wrangler* with universal approbation. I need scarcely add then, that he was a profound mathematician. His mind was so carefully trained to a strict mathematical discipline, and could wield a demonstration with such astonishing dexterity, that when he appeared *cap-a-pie* in the field of *fair* argument, few hearts were stout enough to oppose him. Although full of eccentricities himself, he sternly discountenanced all flights of genius; and when the pleasantries of wit enlivened our circle, which was always the case when, as the soldier would say, we were not “*on duty*,” you would suppose, from his



dreadful contortions and horrid grimaces, that each word was a winged dart, dipped in malignant poison.

One evening he favoured us with a few desultory remarks on marriage, the style of which need occasion no surprise, for he was accustomed to view every thing through a mathematical medium.

"I have deeply meditated," Gentlemen, "on the important union of quantities and qualities in the matrimonial connexion. The connubial tie is not formed by simple addition, but by implication; and implication, in moral matters, is analogous to multiplication in numbers. If, therefore, the jarring interests and discordant prejudices and dispositions be set forth with their respective modifying circumstances, and if all should prove negative, let not the parties despair; they may safely marry; for the implication of these negative dispositions, will, most assuredly, result in a positive advantage."

Shortly afterwards, he laid before the society a paper of a very curious nature. Supported by the conviction that the simplest operations of his Creator were the offspring of design, and that the obscurity of the purpose was an argument rather for the sluggishness of man and the tyranny of vulgar prejudices, than the non-existence of the intention, when he discovered any thing, however minute, which, to appearance, could not be turned to any advantage, he immediately summoned all his powers, whether metaphysical or mathematical, to develope, by dint of hard study, what he had been previously convinced, by *a priori* argument, did actually exist. One day, whilst extending the sphere of his observation, he was forcibly struck with the exact mathematical symmetry in the twist of a pig's tail, and immediately conceived the noble design of investigating its cause, and converting this disregarded phenomenon to some



practical benefit. After repeated dissections and microscopical observations, having collected all his mathematical light to a focus upon this one point, and having called in even fluxions to his aid to solve some abstruse problems, which defied his simply algebraical abilities, he laid the whole system, methodised and arranged, before the society, illustrated by a great variety of diagrams, for the assistance of our minds, in so abstract a speculation. On the following evening, he exhibited a curious and complicated instrument, styled by him a "*kuklouranometer*," accurately constructed upon his established principles, by means of which, as he asserted, he could determine, to a day, the age of the animal, and could pronounce, with great confidence, on the internal temperament of the body, making all due allowances for the influence of the weather, which, however, he had found by actual experiment, was not considerable.

He next favoured us with an ingenious dissertation on heads; in which, after various sections, dissections, and sub-contrasections, having discovered some precise geometrical proportions and accurately defined the ratios, he detected and exposed some gross errors in the calculations of Lavater, which would materially affect our conclusions in regard to the mind. He announced his design of unfolding, to the comprehension of the meanest capacities, the whole mystery of physiognomy, and of erecting a new and rational system, founded on the simplest geometrical principles.

But the most convincing proof of his literary heresy was an extemporaneous discourse on *genius*.

"What a blessing to mankind," said he, "is the infrequency of genius! Its vivid glances, like the lightnings from heaven, are rapid and brilliant; but, when the brightness departs, they leave the world involved in deeper gloom.—



*True* genius, however, must sparkle, like the flint, by collision with some solid substance. *Mathematics*, you will readily acknowledge, is well tried steel."

"True," cried our poet, "but it blunts the edge."

The black choler of Achilles never produced such a tremendous frown as followed this interruption; but the moderator calling to order, the gentleman elevated his brow, composed his angry phiz, and proceeded.

"But genius, Gentlemen, in the common acception, is clearly *lunacy*. In the present state of mental refinement, if we grovel in the regions of common sense, we shall certainly discover nothing new. The head must be slightly disordered, and then, the very extravagancy, wildness and incongruity of our ideas, will infuse into our mental productions the fascinating charm of novelty. When love cracks the head, the brain is immediately crammed with extravagant conceits of the perfection of beauty, the raptures of an evergreen affection, and the purity of the divine flame, and we are at once metamorphosed into amorous poets. Again; the pressure of calamity sinks the spirits and induces hypochondria, which, as it increases in density, approximates the usual forms of madness. Such a disposition is instantly in embryo, and just in this situation the infatuated child of genius generally desires to be.

"Causes are known by their visible effects, and a coincidence in the effects is a good proof of an identity in the causes. Now, attentively consider the lives of the most illustrious geniuses, and you will find them, (poor unhappy mortals,) one, pining away through inconsolable grief for calamities which are purely imaginary; another, never at home in the body; a third, filthy in tatters and rags; and a fourth, literally starving to death through hunger. Now, you must either conclude, with some of the christian fa-



thers, that they are intoxicated with what they are pleased to denominate the "*vinum dæmonum*," or, since I cannot, for a moment, charge the Muses with countenancing bacchanalian revels, you must conclude with me, that this is the incipient state of that same mental disease, which, in other cases, would entitle its possessor to the straight jacket or the solitary cell.

"But I have not yet established the point. All insanity is not *lunacy*. Lunacy is a species of insanity in which the diseased person is strongly influenced by the moon. Don't be alarmed, Gentlemen, I shall not bewilder your minds amid the subtle mazes of astrology, although I most cheerfully yield my assent to the general principles of that injured science.

"What, however, lifts the child of genius to the garret? And, when he can mount no higher with his body, why does his mind, winged with imagination, soar at large amid the lunar regions?

"Poor Kirke White, that tender flower of genius, seemed, at some seasons, to be fed and nourished by sweet influence plentifully poured forth in the lunar beams. Some of his most admired pieces were composed, or, at least, conceived, under the genial smiles of the moon. The morning dawn frequently found him wrapt in meditation, at his casement, casting a wishful look towards those regions, to which his soul seemed instinctively to stretch.

"The Republic of Plato, the Oceana of Harrington, and the Utopia of More, so strikingly visionary, are doubtless the offspring of the same lunar inspiration, and flourish in that planet in all their beauty, sublimity and grandeur.

"I have endeavored, by a very general and candid enquiry, to discover the time of the moon, at which the poet's flame is brightest, or, in other words, his phrenzy most



intense, and, so far as I have been able to extend my research, I am induced to believe, although I would not venture on a positive assertion, that it is just at that time when the moon exerts its baleful influence on the lunatick.

“But the most powerful confirmation of the truth of my hypothesis, I am enabled to draw from the rich fountain of classick learning; and I am proud of an opportunity to prove the superiority of the ancient sages, both in depth and penetration. It was a celebrated sentiment in the school of Plato, “*Poetam infra Deum et supra hominem esse*,” that is, the poet is not elevated to the exalted abode of the Gods, neither is he an inhabitant of the earth. So that, even in that early day, the penetration of the philosopher had discovered that, although the poet’s body was confined, by its density, to the earth, his mind, by an uncommon levity of the spiritual essence, had winged its flight to the middle regions; that is, as we are led to conclude from the other striking analogies, to the regions of the moon.

“These strange, and otherwise unaccountable coincidences, have fully persuaded me to adopt the belief that GENIUS IS LUNACY.”

This is the last dissertation with which he has favoured us. The great blaze has dazzled our sight. Perhaps, when the brightness becomes less intense and more steady, we may venture to look upon him without danger of injury. What he will attempt next, I am unable to conjecture. Perhaps you will soon find him stimulating the lazy genius of your bridge-builder P\*\*\*, and stretching his flying structure across the waves of the Atlantick, by which no one would be so much favoured as,

Sir,

Your obedient Serv’t,

R.



## AN ORATION;

ON THE INFLUENCE OF MORAL CAUSES;

*Pronounced at the Publick Commencement of Middlebury College, held 16 of August, 1815: By Mr. Ashley Samson, candidate for the degree of Master of Arts.*

The intellectual and moral character of man is marked with variety. In whatever part of God's creation we contemplate him, whether on the snowy cliffs of Greenland or the sun-burnt plains of Africa, on the rugged mountains of Norway or the fertile fields of Italy, on the banks of the Ganges or the Mississippi; whether he inhale the Zephyrs wafted from groves of Arabian spices, or shiver beneath the blasts of Patagonia's wilds, this trait reigns predominant. At one time he is seen the pride and the ornament of his species; at another, a foul blot on nature's works. Here, buoyed on the pinions of imagination and of intellect, he soars through the regions of fancy and of fact, and "rivals the rapt seraph, who adores and burns:" there, the forlorn son of ignorance and stupidity, he grovels with the mole, or wallows with the swine. Here, he towers a Newton, there, he roams a Tartar. Here, the smile of complacency glows on his countenance, the tear of sympathy startles from his eye, and the throb of compassion thrills in his bosom.—There, the scowl of malignity darkens his brow, the lightning of revenge flashes on his cheek, and the malice of hell rankles in his breast. At one time he is seen, relieving the sufferer and consoling the miserable; at another, he brandishes the assassin's dagger, or hurls the incendiary's torch. Here, he exults at once the darling son and the resistless champion of liberty; there, some pampered menial, arrayed in the royal purple and decked with the glittering diadem, waves a despot's sceptre over millions of passive



slaves, who, in spiritless acquiescence, lick the chains that bind, and kiss the scourge that lacerates them.

Some account for this variety in the human species, from the influence of climate, and other natural causes. But I can not believe, that the Almighty ever designed the expansion or contraction of genius to be ascertained, by the "zone it might chance to inhabit; not that parallels of latitude should be thermometers of the human mind." I am inclined to attribute that boundless diversity, which obtains, both in the intellectual and moral world, to the *influence of moral causes*. The most powerful agent in forming the individual and the national character, is religion. By religion, I mean any system of moral faith, to which the mind yields an assent. In this sense, it is immaterial whether it be an emanation from Jehovah, or the offspring of fanaticism; whether it be the creed of Mahomet or the Gospel of Emmanuel. In this sense it is, that she exerts an influence, as various in its effects as it is momentous in its consequences. The individual, who would acknowledge himself an experimental stranger to her operations, must be a phaenomenon in the natural world. She commences her agency with the first dawnings of reason, and never becomes inactive, while there are passions in the human mind to actuate, or motives to impel.

At one time she is seen, irradiating the torch of reason, and conducting her votary to the temple of truth; at another, she extinguishes his feeble lamp, and drifts him, a cheerless wanderer, on the ocean of uncertainty and conjecture. Religion elevates man to all which is exalted in excellence; and religion debases him to all which is loathsome in degradation. Now she enkindles in his nature the fires of malignity, and now infuses the glow of benevolence. Now she exhibits him an angel of mercy, and now



a demon of fury. "To the persecuting bigot and fanatic, she is made the watch-word of havock and of murder; to the devout follower of Emmanuel, the herald of peace and mercy. "The christian's throne of grace is the pagan's altar of blood. Where the one offers his prayer, the other immolates his victim." The disciple of Jesus presses to his lips, with the most fervent piety, the consecrated cup, the emblem of a dying Saviour's love: and the deluded Musulman, with a "zeal no less ardent, travels over Arabia's scorching sands, to offer his nightly orisons, at the tomb of Mahomet."

Religion cultivates and refines the tender charities and endearing sympathies of the soul; but religion, brandishing her bloody knife with ruthless hand, cuts asunder the cords of mercy and the ties of nature, now rendering her votary tremblingly alive to the cries of misery, and now steeling his heart to the throb of anguish and to the groans of despair. On the plains of Indostan, you may see the merciless son, without compunction, tearing from the pillow of repose the dying father, hurrying him to the banks of the Ganges, and consigning him to a watery grave. Yea more, you may see the relentless mother, wresting from her bosom her prattling babe, and forcing it into the jaws of the crocodile. "To complete the shade in this melancholy picture, she falls a voluntary victim on the funeral pile of her husband and mingles her ashes with his lifeless clay. At a little distance from this tragick scene, so appalling to human nature, you may see a small band of christian converts, assembled around an altar erected by the christian missionary, chanting a Redeemer's praise; or you may see the solitary native, bedewing with tears of affection, the cypress, which waves over the grave of Swarts."

Religion raises the thong and lights the fires of persecu-



tion; and religion administers dauntless fortitude to their victim; enabling him, while writhing under their tortures to shout "*victory*." She inspires with remorseless cruelty, the murderers of Socrates to administer, and Socrates with philosophick composure, to receive, the fatal hemlock. She generates as well the persecuting fury and the vindictive malice of Saul of Tarsus, as the boundless philanthropy and the matchless piety of Paul the Apostle.

The influence of religion, in forming the national character, is the natural consequence of her influence on the individual mind. At one time she is seen, inspiring patriotism in the citizen and courage in the soldier, imparting wisdom to counsel and energy to action, adding perpetuity of empire to the splendour of conquest, and thus conducting a nation, with a step steady as the march of time, to the summit of glory. At another she is seen, producing the gloomy reverse of all this; generating folly in counsel and impotency in action; now a pander of vice opening the flood gates of corruption, now a patroness of sedition, furnishing treason with a dagger and despotism with chains. Now an ignis-fatuus, she allures a nation through the darkness and the terrors of revolution, and then ingulphs them in the night of oblivion.

Would any one inquire what it was, which made Greece and Rome, each in her turn, the theatre of all those exalted attainments and splendid achievements, which can adorn and dignify human nature? First let him inquire, what it was that inspired the unsullied virtue of Socrates, the inflexible justice of Aristides, the incorruptible integrity of Cato, and the dauntless fortitude of Regulus. What prompted to deathless fame Leonidas and his compatriots at the straits of Thermopylae? Why did not their cowardly hearts shrink back with dread, and the warrior's arm



hang nerveless by his side? Listen to their declarations and you will cease to wonder. *We shall be immediately transferred from the field of battle, to quaff nectar in the fields of Elysium.* I know that the religious rites of the ancients were sometimes defiled, by Bacchanalian orgies. But the cardinal principles of virtue and vice were never forgotten. The Elysian fields and the Tartarian gulph were always kept in view, the one to allure, and the other to terrify.— From the fountain of virtue, their poets drank inspiration, and from the arsenal of virtue, their orators drew the artillery of eloquence. But the glory of Greece and Rome has passed away.

The contrast between ancient and modern Greece furnishes a striking proof, in favour of the influence of moral causes. No wonder that she still continues the seat of savage ignorance and sloth, while, “through her depopulated vales, the scream of bloody superstition hollow rings and the scared native, to the tempest howls the yell of deprecation.” Under the banners of Mahomet, we have seen religion, combining all the materials of infatuated phrenzy, of plunder and of desolation, prostrating the most splendid monuments of genius and art, subjecting to indiscriminate pillage the seats of the muses and the temples of Jehovah; and consigning to a funeral bonfire, the collected science of the world.

The cowardly Ottoman trembles beneath a despot's frown, and “tramples the grave of Leonidas.” The unlettered barbarian chants his effeminate love-song, on the shores, which once reverberated with the thunder of Demosthenes. The sullen Turk dozes in spiritless apathy, quaffs his opiates and inhales zephyrs as mild as ever wafted through the groves of Plato. The waves of the Hellespont still dash around Scio's rocky isle. But when shall another



Homer arise, to celebrate, in deathless strains, the wrath of another Achilles?

Would the advocate for the influence of natural causes conduct us to Asia, for facts to confirm his theory? Perhaps the first sound which might salute his ears, would be the prowling of the tiger, amidst the mouldering ruins of Palmyra, or the screeching of the owl, in the palace of Babylon. The classick scholar, who might visit the seat of ancient Rome, as he viewed those lofty colonnades, which faintly echo to the pilgrim's feet, would anxiously inquire, where now is the wisdom of that august senate? where is that soul-ravishing inspiration of poetry, which enchained the imagination, while it melted the heart? Where is that eloquence, which appalled the ranks of treachery, and supported for a while, the tottering fabrick of a falling empire? Where is that eagle, which, soaring aloft, perched on the Roman standard, as it waved triumphant over the plains of Asia, or was planted on the smoking embers of Carthage? "Has nature changed her operations? Have the frosts of Greenland locked in eternal winter that rich garden of the world? No. The flowers still continue to emit their fragrance, and the fruits to yield their luxuriance: the mild moon-beams of a summer's evening still dance on the Tiber." But the scorching fires of religious bigotry, and the chilling frosts of despotism have combined their deadly influence; withering all the buds of genius, and congealing all the ardour of the soul. Rome has been made the seat of superstition, which, under the name of religion, and of christianity too, spread a more gloomy pall over the intellectual and moral world, than all the absurdities of Pagan idolatry, the infuriated zeal of Mahometan phrenzy, or the desolating ravages of Gothic barbarism. Not content with debasing the creature, it degraded the Creator. The Pa-



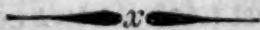
pal Pontiff, arrogating to himself the attributes of Jehovah, measuring the value of eternal happiness by his own pitiless avarice, bartered to the cold blooded son of depravity, a seat in paradise.

Literature and science were proscribed, and the soul was prohibited from exerting its energies, by all the fulminations of ecclesiastical censure, and by all the terrors of eternal damnation. Thus the intellectual powers of man, shrouded in Egyptian darkness, slumbered, and slumbered, and slumbered through the night of ages, till the hand of Luther and others rent the veil of superstition. Then did light from heaven burst upon the world; the human mind awoke from its lethargy, and walked forth, re-illumed, regenerated, and disenthralled. Those portentous events on the continent of Europe, which form a new aera in the history of nations, are, manifestly the result of moral causes. Infidelity collected the materials and lit the fires of that tremendous volcano, whose explosion shook the civilized world to its centre, whose desolating lava has melted thrones, dissolved kingdoms, and wrapped states and empires in her conflagration. One nation survives the general ruin; and why does she survive? Buoyed up by her religion alone, like Noah's ark resting upon Mount Arrarat, she bids defiance to the billows and tempests and earthquakes, which have dashed, and rolled, and rocked around her sea-girt isle.

On her religion alone must Columbia rely, as she launches her bark, on the ocean of untried scenes. Should she become unmindful of this momentous truth, discard the God of her fathers, and thus throw away her chart and compass; when the tempests scowl, the lightnings gleam, and the thunders roar, what then can preserve her from being ingulphed in the awful chasm? Should she, by neglecting her religion, open the flood-gates of infidelity and immoral-



ity, her republican institutions, her science and her freedom will be interred in one common grave, and the sun of American glory set forever.



REMARKS ON PHILALETHERS' DISSERTATION RESPECTING THE  
CAUSE OF THE TIDES.

MR. EDITOR, SIR,

Conformably with your request I have just examined the piece, signed "Philaethes," in your Repertory, Vol. 2, No. 3, and really conceive that, whatever may be the merits or demerits of what the writer calls "*the Centrifugal Theory*," the objections he has brought against it may be very easily cleared away. But, in the first place, I must protest against the admission of two theories; I have indeed seen two methods of explaining the theory of the Central Forces, but both when pursued through all their details, must terminate in the same result.

Perhaps to consider the paragraphs as they are given by the writer, will afford the most eligible arrangement; and in the first place, P. broadly asserts, that the velocity of the earth around the common centre is the same when the moon is in apogee and perigee. Now, if the earth and moon describe similar figures around their common centre of gravity, when the moon is nearest to that centre, or in perigee, the earth is also nearest to it, and when the earth is nearest to this centre, its velocity must be the greatest, and *vice versa*, in order to describe equal areas about it in equal times. The centrifugal force of the earth is, therefore, greatest when the moon is in perigee, and least when it is in apogee, as the actual phenomena of the tides require.— For evidence that the earth and moon *do* describe similar figures around their common centre of gravity, P. is refer-



red to Principia Lib. 1, prop. 57, if my recollection be correct, as the book is not at hand; and if that be not competent, to the Lit. and Phil. Rep. vol. 2, p. 234—5.

As to the sun, it must have its two equal and opposite elevations of water precisely similar to those which attend the moon, and these about the time of new moon (the time named by P.) coinciding with those caused by the moon, must increase them both equally, and at the quadratures, the high water of one falling in with the low water of the other the actual result is only the excess of the lunar tide above the solar.

It is true, that the moon's attraction is stronger in perigee than in apogee, but the centrifugal force, both in that and the earth, is stronger in a much higher ratio; and universally this is the most variable force,—in all the planets the centrifugal force at the aphelion is weaker than gravitation, though this is at its minimum, or the planet would not then begin to approach the sun, and at the perihelion it is stronger than gravitation, though this last is then at its maximum or the planet would not then begin to recede from the sun. It is thus that the waters rise the highest at perigee, though their gravitation towards the moon is stronger then than at any other time.

With respect to calculations to determine the times of high water, if the distance of the moon from the earth be introduced the centrifugal force cannot be far removed.—They have an essential connection, and to introduce one, especially with the angular distance of the moon from the sun, is to introduce some function of the other.

P. in mentioning the spheroidal form of the earth has used the word diameter, doubtless accidentally, for semidiameter; and in attempting to compute what would be, as he conceives, the effect of the centrifugal force in raising



the tide he has taken, inadvertently I presume, the synodical month instead of the sidereal. But these are trifling errors, the great fault of the reasoning lies in comparing the height of the tide with the accumulation of matter in the torrid zone by the earth's diurnal rotation. In the latter case, the centrifugal force has been in operation for ages *on the same tract without interruption*, whereas in the former case, it scarcely begins to assemble the waters at any particular place when by the earth's diurnal motion it flies off swiftly to the westward, withdrawing the waters which it had collected until it has soon depressed them below their original level, while it is then raising a tide more than 6000 miles off. Were it to operate several days *constantly on the same place*, it might raise a tide as high as P. has computed, but we see only the six first hours of its operation, and but a small portion even of that in its full force. It certainly appears to me, that this consideration renders all P's calculations nugatory.

P. assumes, that the whole of the earth's centrifugal force must operate to raise the opposite tide proceeding from the earth's revolution around the centre between it and the sun, but it is only the excess of the centrifugal force of that opposite part above its gravitation towards the sun, which amounts to but a very small portion of the whole centrifugal force. The same observation is applicable to the tide on the moon, so that Herschell's mountains might not be entirely overwhelmed were there oceans sufficient, and even should they for once retire within reach of this tide.

It is declared, with some confidence by P. that were the moon to revolve in a circle there could be no opposite tide produced by the centrifugal force. At the centre of every body revolving by the central forces, there is such a balance between the two as to preserve it accurately in its or-



bit; but all the parts of the body between its centre and the centre of its revolution must have less centrifugal force and be stronger attracted than the body in general, and this excess of attraction tends to draw these parts within the orbit of the body at large, and thus are raised the tides next the sun and moon; while all the parts of the body beyond its centre must have greater centrifugal force, and be less attracted than the body in general, and this excess of centrifugal force tends to propel those parts from the orbit of the whole body, and thus are raised the opposite tides both solar and lunar. I think it quite plain that these two forces *cannot* be equal in all parts of a body at once; if they be equal at the centre, beyond it there must be an excess of projection, and within it there must be an excess of attraction, and this whether the body revolve in a circle or an ellipsis.

If you think that these hasty remarks make it worth while to revive the subject after so long a quietus, you have full liberty to use them.

Yours, sincerely,

S. F.

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REVIEW.

1. *A Treatise of Plain Trigonometry; to which is prefixed, a Summary view of the Nature and Use of Logarithms: Being the Second Part of a Course of Mathematics, adapted to the Method of Instruction in the American Colleges.* By Jeremiah Day; Professor of Mathematics and Natural Philosophy, in Yale College. 8 vo. pp. 126. New-Haven. Howe & Deforest. 1815.
2. *A Practical Application of the Principles of Geometry to the Mensuration of Superficies and Solids: Being the Third Part*



*of a Course of Mathematics, &c.* By Jeremiah Day, Professor, &c. 8 vo. pp. 96.

It is a high excellence of any work, that it be adapted to the purpose for which it was designed. It is an excellence, which, not uncommonly, is found wanting in those works, which were intended for a specifick purpose and to supply an acknowledged and important demand. Many have discernment sufficient to take a general view of the thing desired, who are not calculated to succeed in the attempt to execute it. The obstacles, which lie in the way to success in the production of such a course of Mathematics, as Professor Day has commenced, are many and great. Several of these will readily occur to those, who have been much employed in the instruction of youth in Mathematics, and need not be enumerated. There are others, which arise from the very nature of the work, and are increased by the multitude of publications upon the subject even with all their imperfections. That man, therefore, deserves no small share of praise, who forms a suitable plan, and who executes that plan with no ordinary ability and success.

In the last number of this work, we gave a general view of the characteristics of that system of Mathematics, which would be adapted to the general "Method of Instruction" in our Colleges, and, of the First Part of Professor Day's "Course." It is with much pleasure, that we now present our readers with some account of the two following Parts.

"Preparatory to the calculations in Trigonometry," the Second Part "begins with a view of the nature and use of *Logarithms*." A few extracts will be given. Art. 2. "*Logarithms* are the *exponents* of a series of powers and roots. In forming a system of *Logarithms*, some particular number is fixed upon, as the *radix* or first power, whose logarithm is always unity. From this a series of powers is raised, and



the exponents of these are arranged in tables for use."

Art. 5. "If the radix is 10, as in the common system, every other number is to be considered as some power of 10. That a power or root of 10 may be found, which shall be equal to any other number whatever, or, at least, a very near approximation to it, is evident from this, that the *exponent* may be endlessly varied; and if this be increased or diminished, the *power* will be increased or diminished."

Art. 16. "It is evident also, that all *negative* logarithms belong to fractions which are between 1 and 0; while *positive* logarithms belong to natural numbers which are greater than 1. As the whole range of numbers, both positive and negative, is thus exhausted in supplying the logarithms of integral and fractional positive quantities; there can be no other numbers to furnish logarithms for *negative* quantities. On this account, the logarithm of a negative quantity is, by some writers, said to be *impossible*. It appears to be more proper, however, to consider the logarithms of negative quantities, as *being the same* with the logarithms of positive quantities. Logarithms are the exponents of powers and roots. But an exponent may be applied to a negative power or root, as well as to a positive one."

Art. 54. "The *difference* between a given number and 10, 100, or 1000, &c. is called the *arithmetical complement* of that number." 56. "The principal use of the arithmetical complement, is in working proportions by logarithms; where some of the terms are to be *added*, and one or more to be subtracted."

Omitting any remarks for the present we turn to the Trigonometry. The first four Sections contain the usual definitions of an arc, the complement of an arc, &c. and of Sines, Tangents, &c. and their relations to each other; an account of the trigonometrical tables, and directions for using them, and the like; and the usual theorems for the



solution of right-angled and oblique-angled triangles, with many remarks, which will be very valuable to the student. Sections 5 & 6th, explain the construction and teach the use of the *Plane Scale*, and of *Gunter's Scale*, and supply the student with information, for which he would look in vain in many treatises on Trigonometry. Section 7th contains the first principles of Trigonometrical Analysis," with some of the most important formulæ in the arithmetic of Sines, &c. The 8th Section is upon the computation of the trigonometrical Canon. To the whole are added several very valuable notes. It is obvious from this general account, that the treatise on Plane Trigonometry, embraces those subjects which are essential in the present state and applications of this science. Only a few extracts can be given. Art. 98. "To facilitate the operations in Trigonometry, the sine, tangent, secant, &c. have been calculated, for every degree and minute, and, in some instances, for every second of a quadrant, and arranged in tables. These constitute what is called the *Trigonometrical Canon*." 103. "One circumstance, however, is to be attended to in comparing" the tables of *natural* and *artificial* Sines &c. "The *radius* to which the *natural* sines, &c. are calculated, is *unity*. The secants, and a part of the tangents are, therefore, *greater* than a unit; while the sines, and another part of the tangents, are *less* than a unit. When the logarithms of these are taken, some of the indices will be *positive*, and others *negative*." To prevent the inconvenience which would arise from this circumstance, "10 is added to each of the indices. They are then all positive." Or, as is stated in a note, "the tables may be supposed to be calculated to the radius, 10,000,000,000, whose logarithm is 10."

142. "To obtain the difference of the squares of two



quantities, add the logarithm of the sum of the quantities, to the logarithm of their difference." 192. "The sines, tangents, &c. in the tables, are calculated for a single quadrant only. But these are made to answer for the whole circle. Some of them, however, are *positive*; while others are *negative*. In algebraic processes, this distinction must not be neglected." Then follows a clear explanation of the subject. Some of the most interesting of modern discoveries in astronomy, are depending upon a happy application of the principles, here explained. The student ought to be acquainted with this, as well as every other part of the Treatise.

The 2nd Part possesses very many and great excellences. Perhaps, it would be an improvement to extend it a little farther in some particulars. Instead of referring to Fluxions for "the method of calculating Logarithms," it would be advisable, in our opinion, to give an algebraic method. For this, there are two reasons. First, the student will not then feel that he is using numbers, of the manner of forming which he is ignorant: and, secondly, the generality of students will be more likely to understand the *algebraic*, than the *fluxionary*, method.

In Art. 220, we have an analytic demonstration of the 2nd Theorem in Section 4. It might be well to give a similar demonstration of the 1st Theorem. This, it is well known, may be done easily from the expressions of the Cosines in terms of the sides, in note H. page 117. Note K. might with propriety be enlarged by the addition of some more formula for tangents, &c.

The distinguishing excellence of the "Second Part" consists in the simplicity of the definitions—the clearness and dependance of the several subjects—the neatness and perspicuity of the several propositions and of their demonstrations



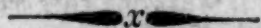
—and, the fulness, which, very generally at least, marks the work. Such remarks are scattered through the work as are really explanatory, and are calculated to render the subject familiar to the student. These are the more necessary, as there are few of the sciences, more perplexing to the young, considering its clearness when once understood. — The reason is, that while lines and angles are visible objects, the sines, tangents, &c. by which are to be determined the lengths of sides and the quantity of angles, are objects of speculation—a kind of invisible, efficient things, which elude the senses. The difficulty has commonly been increased by the imperfection of the systems of Trigonometry, by an indefinite conception of the nature of logarithms, and by ignorance of the construction of the tables of artificial sines, &c. Attentive consideration of *this Part*, will remove in a very great degree, from *all* minds, confusion of thought upon this subject.

The *Third Part* is characterized by the same marks of excellence as the one we have been considering. It requires only to be read to be approved. It is divided into five Sections, containing rules for calculating the areas of rectilinear and circular figures; for the contents of solids bounded by plane surfaces, and of the cylinder, cone, and sphere; and for some isoperimetrical figures. The rules are clearly demonstrated, and many relations ascertained, which are not to be found in the common systems. Several of the demonstrations, if not new, are not very common. As the work would, probably, fall into the hands of many, whose object would be to learn the rules, and not the principles, an *appendix* of rules is added for calculating the area and solidity of several figures and bodies, the consideration of which belongs to the remaining parts of the "*Course*." The *appendix* does not, therefore, strictly be-



long to the system. That part of the work, which treats of the *sphere*, and of *isoperimeters*, will be considered by the student as particularly interesting and valuable. It is hoped that these two parts of the Course will receive that attention they so well merit. The publication of the "Course" is so far highly honourable to the author and to the literature of our country. Considering the *object of the Course*, no system before published, is to be compared with it. We hope the remaining *Parts* will speedily follow, and, the system be presented to the publick, which promises to be so valuable an acquisition.

We are happy in finding occasion to remark, that the typography of this excellent production is in a state of progressive improvement. The mechanical workmanship exhibited in the *Second Part* is, evidently, superior to that displayed in the *First*, or, at least, to that displayed in those copies, which fell into our hands; and the *Third*, we think, surpasses, in this respect, either of the preceding. It affords us much satisfaction to perceive, that the style of printing in this *Third Part* is, in some good degree, correspondent with the high merits of the judicious and indefatigable compiler.



*Extract of a Letter from a gentleman, resident in Charleston, S. C.  
dated May 24, 1816, to the Conductor of this Magazine.*

The scanty support of publick institutions, and the greater poverty of the pupils materially retard the growth of literature throughout our country. As we increase in wealth, and population, and become more liberal, and more attached to the arts and sciences, especially to the fine arts, these obstacles will gradually vanish. Talents remain dormant,



concealed in the breast of poverty, where intellectual culture was never fostered, and where the illuminating radiance of science has never penetrated. The period must, before long, arrive, when institutions for the education of the indigent will be generally established; and genius, wherever found, will be patronized and cherished.

We have no literary establishments in this city worth mentioning; and but one in the state of any celebrity.— This is the College at Columbia, situated about 100 miles from Charleston. And even this seminary, I am informed, is not in a very thriving condition. General learning cannot be said to flourish in the southern section of the union, as it does in the Middle and Eastern states. This may, in some measure, be attributed to its climate, which enervates the body, and unhinges all the faculties of the soul. As the tender plant droops and withers, beneath the scorching influence of the mid-day sun, so the human plant of "heavenly origin" dreads the approach of summer, and seeks an asylum on a neighboring island, in a northern port, or in some far distant region. For about three months the heat is extremely oppressive, and sometimes almost insupportable.— During this period, business of all descriptions is nearly suspended; and where, in walking the streets a short time before, you would see hundreds, you will now scarcely meet an individual.

You are already acquainted with the local situation of Charleston. It had a population in 1810 of 24,711. It probably amounts, at this time, to a little upwards of 30,000. The houses for public worship, within the city and its suburbs, are 5 belonging to the Presbyterians, 3 to the Episcopalians, 3 to the Methodists, 1 to the Roman Catholics, 1 to the French, 1 to the Baptists, 1 to the German Luther-



ans, 1 house for the benefit of the orphans, where the clergy of the different denominations alternately officiate, and 1 Synagogue for the Jews. We have 5 Banks, the combined capital of which is four million two hundred thousand dollars. These, together with the orphan house, the prison and jail, the court-house and theatre, constitute the principal publick edifices of Charleston.

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MODERN PARIS.

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LETTER XXVII.

*Paris, 24th October, 1807.*

Manufactory of procelain at Séve ;—This ware originally brought from China or Japan. European porcelain first made in Saxony, but perfected at Séve ;—The establishment belongs to the Government, and is superintended by M. Brongniart.—The kaolin transported from St. Yriex ; supposed to be decomposed graphick granite.—The ware dearer than the Chinese.—St. Cloud ;—Its palace ;—Furniture ;—The Council of 500.—Versailles, two centuries ago, was a small village ;—Owes all its magnificence to Louis XIV. ;—Its former and its present population ;—Its Palace—Gardens—Water-works—Statuary. Count Rumford ; a sketch of his life, related by himself ;—His honours, literary, civil, and military ;—Was the founder of the Royal Institution of London, and brought into publick notice the English chemist, Mr. Davy ;—The Countess, the widow of Lavoisier ;—Their separation ;—His liberality ;—His death.



MY DEAR FRIEND,

Four days ago, Mr. C. and myself made an excursion in the environs of Paris. We took a *cabriolet*, and rode first to

SEVE,

A little village, standing on the south bank of the Seine, about two leagues from the Metropolis. It comprehends, according to the Imperial Almanack, a population of only 2643 souls. Inconsiderable as the number of its inhabitants is, the excellence of its porcelain has rendered the village noted in all parts of the civilized world. To examine the manufacture of this curious article was our sole object in visiting Séve. Without difficulty we gained admission into the establishment.

It is, perhaps, superfluous to remark to you, that this species of ware was first fabricated in China, or Japan.—When commerce presented it to the eyes of the Europeans, its richness and its elegance excited universal admiration. Attempts were undertaken, in several countries, to investigate its nature, and to produce a similar kind of pottery.—These attempts were partially successful. The Europeans imitated the exterior of the eastern ware with tolerable correctness. But, in one material point, it was defective. It would not, like the Asiatick porcelain, sustain, without alteration, the action of an intense heat. It would fuse. After an attentive examination, it was concluded, that all porcelains partook, in a greater or less degree, of the nature of glass; that they were all semi-vitrifications; though it is now well known, that one of the ingredients is absolutely infusible.

That kind of pottery, which was frangible in consequence of sudden transitions from cold to heat, or from heat to cold,



was denominated *tender porcelain* ; and that, which would, without injury, endure great and rapid fluctuations of temperature was called *hard porcelain*.\* The latter, owing to the manufacturers' ignorance of any material, that could supply the place of the Chinese kaolin, did not, for a long period, make its appearance among the productions of European origin. It was, it is believed, first constructed in Saxony ; but, at Séve, its manufacture has been carried to the highest perfection. Both kinds are here fabricated. The *hard*, as I have just remarked, bears the sudden vicissitudes of heat and cold better than the *tender*. But the superintendent informed us, that those pieces, which are designed for ornament, merely, are commonly constructed in the manner of the *tender porcelain*, and, especially, those, which are destined to receive rich paintings. Gold is applied for decoration to both, but it incorporates better, he assured us, with the *tender*, and becomes more permanent, than it does with the *hard*.

The ware made at Séve is everywhere celebrated for its delicate whiteness, and for the richness of its gilding ;—“ but that,” say the authors of the statistical history of France, “ which gives it an incontestable superiority over all the porcelains of the world is, the regularity and elegance of its forms, the beauty, the perfection, the gracefulness, the ease, of its designs ; in a word, the *chef-d'œuvres* of painting with which it is enriched, and which render it precious in the eyes of all nations, where the arts are cultivated.”

This noble establishment belongs to the French government. Its present director is M. Alexander Brongniart, author of an excellent system of mineralogy in two volumes

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\*Statistique de la France, tom. 11. p. 195.



a system, which contains a more detailed account of the applications of minerals to the useful arts, than occurs in any other work, which has come under my observation.

The kaolin employed at Seve is not found in the neighbourhood of that village. It is brought from St. Yriex, more than two hundred miles distant from Seve, and is, in the opinion of Brongniart, decomposed graphick granite.—What materials, except kaolin, are made to enter into the composition of porcelain we were unable to ascertain. The ingredients in this elegant commodity, and of course, the proportions in which they are combined, are, I believe, in all countries, cautiously concealed from the eye of the most scrutinizing traveller. We were, however, suffered, without the least hesitation, to enter all the apartments of the establishment, and to examine the pottery in nearly all the stages of its manufacture.

The representations of trees, buildings, animals, &c. on porcelain vessels, I had formerly been led to suppose, were impressed on them, by moulds, or with stamps, previously to the substance becoming much indurated. But I was deceived. The work is done with the pencil. This business affords constant employment to a large number of painters.

I shall give you, in brief, an account of the whole process, as far as I have been able to ascertain it. The composition is ground in a mill, brought into a state of paste, and then formed in moulds, or on the wheel, into such vessels, or into such figures, as the manufacturer wishes to produce. These are suffered to dry. They are afterwards enclosed in cases, which are designed to exclude the smoke from the porcelain, and which are constructed of matter, not easily fusible. With these cases, piled one on another, the furnace is filled. A moderate fire is kindled, and



gradually augmented, till the porcelain has acquired its proper degree of hardness and transparency, and then the heat is allowed slowly to subside. It is now denominated *biscuit*. The glazing is next applied. The vessels are again dried, and again baked. Such as are intended to remain white are now completed. Such as are destined to be painted and gilded have additional operations to undergo. The beautiful colours, with which porcelains are decorated, are derived from the metallick oxides, mixed with a small proportion of a very fusible glass. When these are applied to the ware, it is once more submitted to a heat, sufficiently powerful to fuse the glass with which the oxide is incorporated. The whole operation is now accomplished; and the porcelain is dispersed from the manufactory into all regions of the civilized world.

The pottery fabricated at Sève commands a higher price, than any of that, which is brought from the oriental countries. We noticed a number of little vases, which were marked 200 *francs* apiece. Having obtained a fragment of a vessel in the biscuit state, and a small quantity of the unmanufactured kaolin, we bade adieu to Sève and proceeded on foot to

#### ST. CLOUD;

Which is only 50 or 60 rods from the former village, from which it is separated by a diminutive park. In this park is a hill, which we clambered over, some hundreds of feet in elevation. There is nothing at St. Cloud, deserving a traveller's regard, except the imperial palace. This was originally built in times of yore. One of the grandsons of Clovis erected it. It was re-built by the unfortunate sixteenth Louis. Here the villanous Clement effected the assassination of his Sovereign, Henry III. Here the Coun-



cil of 500, which Bonaparte dispersed, held their final session.

The palace has been recently refitted, re-furnished, and made the occasional dwelling of his majesty. The emperor was at Fontainebleau. One of the household attendants conducted us through all the rooms of the imperial habitation. The edifice is, in my estimation, vastly inferior, in every respect, to the palace of the Tuilleries. The apartments of her majesty, Joséphine, are richly decorated. The furniture is all new and elegant. From St. Cloud we pursued our route to

#### VERSAILLES.

This city is situated about four leagues from Paris, in a southwesterly direction, and comprehends, if we may believe the Imperial Almanack, a population of 27,574 individuals. It is indebted for all its splendour to the pride, the taste, and the power of Louis XIV. Before his day, it was but an insignificant village. His predecessor had built a temporary edifice near the spot, on which the palace now stands, to serve as a *rendez-vous* for the royal Nimrods of France, who sometimes resorted hither to pursue the pleasures of the chase. But Louis the Great, as with Mercury's magick wand, transformed almost instantaneously, a frightful wilderness into a paradisaical garden—a miserable hovel into one of the most splendid palaces the world ever saw. The village, at once, assumed the name of a city, and wore the aspect of extraordinary prosperity.—Its population, and its wealth were, from that time, rapidly progressive, down to the commencement of the memorable revolution, when it contained no less than 80,000 souls. The desolating calamities of that “day of blood” reduced its numbers to less than 30,000.

The palace stands in an elevated situation, and is com-



pletely isolated from the city. In magnificence, it far surpasses the *chateau* of St. Cloud, and even that of the Tuilleries. It consists of three enormous buildings adjoining each other. In the largest resided the king. The two inferior ones were, it is said, ordinarily occupied by some branches of the royal family, or by some other distinguished personages of the kingdom. The eastern side, which was built at different eras, is deficient in regularity, and offers to the approaching spectator, no trait of uncommon grandeur; but the western front, which looks into the gardens, presents to an eye placed at a distance, a perfectly regular, and singularly noble appearance. The chapel, which is not spacious, is deemed, by connoisseurs, to be one of the most elegant monuments of architecture, of which Europe can boast. We were permitted to view all parts of this enormous palace. In one room, was an immense collection of shells, and other natural and artificial curiosities, scientifically arranged. In another, we saw a multitude of paintings—the product of the French school—some of the best of which a number of young artists were employed in copying. The apartment denominated the Grand Gallery is extremely roomy, no less than 240 feet in length, 30 in width, and 40 in height. In this, I am told, the royal levees used to be held.

But the *chateau* of Versailles appears solitary. Bonaparte, for some reason or other, has never deigned to occupy it. It is a “deserted castle.” Its former tenants now people the world of spirits, and their ancient abode, through the inattention of the government, is, in some places, falling into a state of partial delapidation. No one of the kingly dwellings is so much neglected.

The gardens! who can describe them? They are the wonder of the world. They comprehend a large area, ex-



tending to the westward almost as far as the eye can measure. The arrangement displays a superlatively good taste.

The land is laid out in neat compartments, of different figure and size, some of which are planted with trees and shrubs. Each of the divisions is surrounded by a gravelled walk, which is frequently rolled. The gardens are everywhere ornamented with the productions of the most celebrated statuaries, ancient and modern.

The water-works never fail to excite, in the minds of visitors, the highest degree of admiration. Louis the great delighted to encounter, and to overcome, the difficulties, which nature, or art threw in his way. Versailles was naturally an arid tract of country. He formed the bold project, and caused it to be executed, of supplying his new city, and the palace gardens, with water taken from the Seine, at Marli, which is a number of feet below the level of Versailles, and five miles distant. An immense volume of the fluid is raised, from the river, to an elevation of between 3 and 400 feet, by a powerful hydraulick machine, and is afterwards conveyed by an aqueduct, and by pipes, to the places of its destination. In different parts of the gardens are superb fountains, of various forms, planned by no ordinary genius, and constructed by no ordinary talents, representing subjects of heathen mythology. When these fountains are set in operation, the water is projected, by numerous figures, to a considerable height in the heavens, and exhibits a spectacle truly interesting, and one which is often witnessed by many thousands of individuals whom curiosity has drawn together.

The orangery is, indeed, kingly, or rather, imperial. It is large and plentifully stocked with noble trees, which impregnate the surrounding atmosphere with a most agreeable perfume. Some of these orange trees are said to have



been growing in the reign of Francis the First, and, consequently, must be about three centuries old.

Before my eagerness to examine the beauties, and splendour, of Versailles was half satisfied, I was obliged to hurry back to Paris, to fulfil an engagement which I had made to dine, at six o'clock, at

COUNT RUMFORD'S.

I have no cause to reiterate the complaints, which are uttered by many Americans,—that they have been treated with neglect by this, their illustrious countryman.—I had an introductory letter to the Count from a gentleman in London, which brought me acquainted with him immediately after my arrival. He has always given me a cordial reception at his house, and I have, at his solicitation, commonly breakfasted with him once a week, ever since I began to reside at Paris. A few days ago, he called at my lodgings, and invited me to accompany him, in his carriage, to Draveil, to pass a day or two, with our friend, Mr. P.—I cheerfully accepted the invitation, and, on the way, the Count gave me a fuller narrative of the occurrences of his life, than I had ever before heard.

His native place was the town of Woburn in Massachusetts. His father, who was indigent, deceased, when he was about two years old. By the direction of his guardian, he was placed in a store, in Salem, as a clerk, but speedily became disgusted with the tedious details of mercantile business, and abandoned, forever, the idea of pursuing that occupation. He afterwards resided, some time, in the family of the Rev. Dr. Williams, the historian of Vermont, while that gentleman was pastor of a parish in Bradford, and before he was appointed to fill the chair of Mathematicks and Natural Philosophy in Harvard University.—



After successfully struggling against a torrent of difficulties, in pursuit of mathematical and physical science ; after acquiring the competent qualifications to become an instructor of youth ; he undertook to teach a school in the town of Concord, N. H. This town, anciently, bore the name of Rumford : hence his title. His surname is Thompson.

Here he married a young widow, by whom he had one child, a daughter, with whom you are personally acquainted. She now lives in Boston.\* He was suffered to continue in the bosom of his family but a short period. Suspicions, that he was a tory—an enemy to his country—got deep-rooted possession of the minds of many of his associates, and rendered his situation exceedingly unpleasant, and even hazardous. What ground he had given for the indulgence of those suspicions, he did not inform me. But they gradually grew stronger and stronger, till, to secure his personal safety, he was ultimately compelled to relinquish all his domestick endearments, and fly his country. He embarked for England.

After remaining several months in London ; after receiving the appointment of under Secretary for one of the departments ; the influence of his patron, Lord German, procured him a colonel's commission in the British army.—He was ordered to New-York, for the purpose of raising his regiment in America. Shortly after his arrival, hostilities terminated. He returned to England ; was knighted by his royal master, and, but a little period intervened, before he commenced the tour of Europe, with the intention of rendering himself more perfectly acquainted with the civil and military establishments of the countries,

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\*She has since, at the request of her father, gone to France.



through which he purposed to travel. While on his route, he was introduced to the Duke of Bavaria, who strongly importuned him to take up his permanent residence at Munich. He, at length, consented to return to that city, and immediately after his promise was fulfilled, was created chamberlain, and admitted member of the academies of science at Munich, and at Manheim. The order of St. Stanislaus was conferred on him by the king of Poland.—“I have,” he remarked, “been elected member of no less than fifty six learned societies, which” he added, “constitute, I believe, the whole number of respectable literary and scientific associations existing in the civilized world; one excepted, which is at St. Petersburg.” He is foreign associate member of the National Institute of France, and vice-president of the Royal Society of London. With the success of his benevolent exertions in Germany, you have been made acquainted by his own publications.

By his influence, the Royal Institution of London was established; and to him, he observed, belonged the honour of bringing into public notice, the young gentleman, who is now the pride, and the ornament, of Great Britain, Humphrey Davy, Esq.\* the present professor of chemistry in that institution, and one of the Secretaries of the Royal Society. This gentleman, who has made a greater number of valuable additions to chemical science than any other man ever did, was, the Count remarked, a few years since, a poor lad, an inhabitant of Cornwall, the most miserable part of the island of Great Britain. He found him with Dr. Beddoes of Bristol, with whom he was residing, as an assistant in his laboratory. The Count engaged him to become chemical lecturer in the Royal Institution, but

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\* Now Sir Humphrey Davy, L. L. D.



at the same time, told him, that, as he was but a boy in appearance, as well as in years, he could not ensure him the professorship immediately, but, if he would make a trial, as *lecturer*, one year, he should, at the expiration of that period, provided his success corresponded with the reasonable wishes of the publick, be elevated to the professorial chair. You are not ignorant of Mr. Davy's present reputation.\*

Count Rumford had been loaded with honours by his distinguished benefactor, the Duke of Bavaria. He had not only been raised to the office of chamberlain, but had been appointed privy counsellor of state, lieutenant-general in the Duke's army, commander in chief of the general staff of his army; had been decorated with the badge of the order of the White Eagle, and been elevated to the dignity of Count of the holy Roman Empire. He solicited, and obtained, permission to quit the Bavarian territories, with the design of residing at Paris. But his generous patron would not suffer him to abandon his dmoinions, till he had bestowed on him an additional token of his friendship.— He ordered, that the same salary, which he had been accustomed to receive in Bavaria, should be continued, and the Count assures me, that it is regularly paid to him in quarterly instalments. He came here for the purpose of marrying the widow of the celebrated chemist, Lavoisier, whose house he and the Countess now own, and inhabit.

She is a lady of strong intellectual powers, but is not

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\* About a year after the above mentioned conversation took place, I was assured, by Professor Hope of Edinburgh, that he himself first recommended Mr. Davy to Count Rumford, as a suitable person to deliver chemical lectures in the Royal Institution.



blessed with any extraordinary personal charms. She is, indeed, remarkably plain. She reads, but does not speak, English. In conversation, on almost any topick, she is interesting in no common degree ; is tolerably well versed in several of the sciences, and, especially, in chemistry.

The dining guests consisted of nine or ten French *savans*, a Scotchman and myself. The Count was so obliging, as to spend most of the evening conversing with me, on his favourite subjects, light and heat. As our ideas, in relation to these points, were totolly opposite, he endeavouring to support the immateriality, and I, the materiality of the calorifick and luminous principles, little accordance of sentiment could be expected. As he seemed to court opposition I ventured, modestly, to offer some objections to his theory, two or three of which he frankly acknowledged himself unable, at that time, to remove, but engaged to obviate them at our next interview.

Count Rumford is a tall man—more, I imagine, than six feet in height, and of a dignified appearance. The copper-plate picture of him, in a volume of his Philosophical Papers, is an admirable likeness. In depicting the features of his face, and, particularly, the lower parts of it, the artist has copied nature to perfection. At first view, you would suppose him to be a man, possessing no inconsiderable share of moroseness, and austerity of character. You would notice, in his countenance, a certain lineament—and, it is, I think, perceptible in the picture—which indicates something repulsive in his disposition. But this, after being in his presence a moment, you forget. He is easy of access, and remarkably affable, even with persons belonging to the lowest orders of society.

As a useful, practical, philosopher, Count Rumford is entitled to an elevated seat in the temple of science. In my



opinion, he richly merits the high encomiums, which the world has seen fit to bestow on him. Some of his writings are, it is true, unnecessarily prolix, and a little too strongly tinged with egotism, but, they have valuable properties, which are not attached to the works of all great men ;— they are easily intelligible, and not inelegant.

In the contrivance and management of his experiments, a vast deal of ingenuity, and originality, is perceptible.— His experiments on gun-powder, particularly those recorded in his second Paper, will be examined with pleasure, and with profit, by the philosophers of the present, and of future generations. His experiments and conjectures relative to the production of air from water, when exposed to the action of light ; and on the quantities of moisture absorbed by different substances, are ingenious, entertaining and important. The third chapter of his “ Essay on the Management of Fire, and the Economy of Heat” merits the attentive perusal of every person, who is anxious to enhance his own comfort, or to preserve his property. But mankind are more deeply indebted to this gentleman, for his successful endeavours to ameliorate the condition of the poor ; and for promoting the comfort of the whole community, by the extensive improvements, which he has been the means of introducing in the mode of constructing chimnies, than for all the other achievements of his life. By these, he has raised an imperishable monument to his memory.

There is another trait in Count Rumford’s character, which richly deserves commendation and imitation. By the multiplicity of his arduous labours, he has accumulated wealth ;—not to hoard in his coffers for his heirs to quarrel about ;—not to squander in luxurious living, or in ostentatious parade ;—but for a nobler purpose ; to bestow on



publick institutions, to encourage physical investigations, to augment and diffuse useful knowledge, and to advance the happiness of his species. In the year 1796, he deposited in the English funds, 1000 pounds sterling, and in the American funds an equal sum, the interest of both was to be given in medals to the authors of the best essays on Light and Heat. These premiums were to be distributed to the most meritorious of the competitors, according to the adjudication of the Royal Society of London, and the American Academy of Arts and Sciences.\*

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\* Shortly after my departure from Paris, owing to some *incompatibilit  * of disposition, on one side, or the other, or on both, the silken cords, that bound together the Count and Countess were sundered. He, I am told, by a gentleman recently from France, passed most of the time, after his separation, with Mr. Parker, whom he appointed one of the executors of his last will. By one of the latest acts of his life—by the bequest of a liberal sum of money to Harvard University for the support of a new professorship of philosophy—he has, incontestably, evinced, that he could not forget to do good to the land of his nativity. This distinguished act of generosity must long render the memory of this illustrious American dear to that flourishing Institution. A gentleman, we understand, eminently qualified to fill the office, Jacob Bigelow, M. D. has been elected professor, on the Rumford foundation. This liberal donation will, we trust, ere long become productive of extensive benefits to our country, and to the world.

Count Rumford was born, March 26, 1753, and expired in the last part of 1814, at his country seat, a few miles from Paris, aged 61. His eulogium was pronounced before the Institute of France, on the 9th January, 1815, by M. Cuvier, one of the perpetual secretaries of the class of Mathematicks and Natural Philosophy.



## LETTER XXVIII.

Paris, 23 December, 1807.

Parisian baths ;—The most commodious are situated on the Seine ;—Expense of bathing ;—Soup ;—The cork board ;—Waiters more easily satisfied than in England ; Climate of Paris ; The weather ;—Frequent occurrence of thunder ;—Lightning-rods, with a single point ;—Marquis de la Fayette ;—His lameness ;—Appears younger than he is ;—He is not affluent ;—Fires at Paris fed chiefly with wood ;—Price of this article ;—Parisian chimnies old fashioned ;—Helen Maria Williams ;—Her literary and scientific levees ;—*Musée* Napoleon ;—The Louvre ; Its gallery of paintings, 1300 feet in length ;—Its number of pictures ;—Most of them collected from the conquered countries ; Christ bearing his cross ;—David cutting off the head of Goliath ;—Daniel in the Lions' den ;—Moral tendency of paintings ; Statues placed in apartments situated under the gallery of pictures ;—The saloon of the seasons ;—Saloon of illustrious men ; Saloon of the Romans ;—that of Laocoon ;—that of Apollo ;—that of the Muses. Statues, Zeno, Demosthenes, Venus, Socrates, an Egyptian God, Cupid bending his bow, Apollo du Belvedere, &c. &c. Collection of *tableaux* and statues at the palace of the Luxembourg.—Mr. Vanderlyn.

MY DEAR SIR,

One of the greatest luxuries, which this metropolis affords, is the warm-bath ; and it is one in which I allow myself frequently to indulge. It is a luxury of which both Frenchmen and foreigners are excessively fond. Nowhere is the pleasure of bathing carried to higher perfection ;—no where can it be purchased at a lower rate, than in this city. Baths may be found in all quarters of Paris, but the most commodious, and the most elegant, are situated on the river, Seine. Immediately after reaching this capital, I



observed several long, narrow, buildings, apparently, floating on the water, near the margin of the river, and was at a loss to conjecture their use. I shortly discovered, that they were bathing-houses, and did not long refrain from visiting the one, which is placed a few feet above the *Pont Royal*. At the door stood a woman, who handed me a card, on which was printed the number of the apartment, which I might occupy, and for which she demanded thirty *sous*.

An aile, six or eight feet in width, runs through the whole length of the edifice, dividing it into two equal parts. The space on each side is separated into small rooms;—those on the one side destined to the accommodation of males, and those on the other, to that of females. In each of these rooms, you will find a looking-glass, a copper reservoir to receive the water, two chairs, slippers, and other conveniences. When I entered, the apartments were all taken up, though they amount, I am certain, to upwards of one hundred. My room was vacated after a few moments. A servant, with powdered hair, and genteelly dressed, came, and conducted me to it, washed the reservoir, and, turning two brass cocks, the one admitting cold water, and the other warm, brought the mixture to a proper temperature. You can, while in the bath, change the temperature at pleasure, by turning one, or the other, of the brass cocks. The water is elevated from the river to the boilers by mechanical means, and thence conveyed to the different rooms by brass pipes.

The servant, on leaving me, inquired, if I wished for soup. I replied in the affirmative, and, in exactly fifteen minutes, it was brought in. I was sorry to see it so soon; for I shall, thought I, be obliged to quit the comfortable bath, and sit in the cold air, to eat my *bouillon*;—which will be risking more than it is worth. Before I could think



again, a cork board was thrown on the surface of the water, and on it were placed a plate, a bowl of hot soup, and a fine French roll of bread. My body surrounded with the fluid, and my head just above it, I partook, with sensations inexpressibly delectable, of my simple, but salubrious, repast.

A catalogue of all the articles, which are usually called for by the visitors, is suspended from one side of every little apartment, with a fixed price annexed to each article. After remaining in the water half an hour, I rang the bell. The servant speedily made his appearance, bringing with him two warm towels. For the use of these I gave four *sous*; for the soup and bread, ten; making the total expense for bathing forty four *sous*; or about twenty two pence sterling. For a bath in England I have given six shillings sterling. I informed you, sometime ago, if I mistake not, that the French servants are commonly satisfied with a much smaller remuneration for their services, than the English. It is customary for foreigners, but not, I am told, for the Parisians, to make a little compensation to the waiter at the bathing-house for his trouble; generally, two or three *sous*. I handed him four; for which I had his best services, a multitude of thanks, and a low French bow. At Covent Garden, in London, I have given the waiter an English shilling for his attendance during a single bathing, and then had the mortification of seeing him move off muttering dissatisfaction.

I am not going to attempt to prove unfounded an assertion, which travellers often make, "that the climate of France is one of the finest, and most salubrious, in the world;" but I will venture to affirm, and, I believe, every body in Paris will respond amen, to the affirmation, that the weather here, during the two last months, has been



neither promotive of health, nor comfort. One meteorological fact, I have noticed, which is singular, and, perhaps, peculiar to this region of the continent: Nearly every day, for about four weeks, the sun has risen, with unusual brightness, and, for several hours, has poured on us, in great profusion, his exhilarating effulgence, but by mid-day, his rays have been intercepted by clouds, which have in the afternoon, with little variation, imparted their contents to the earth in a slow, drizzling, rain. This causes the pavements of the streets to be perpetually wet and slippery; which circumstance, added to the want of separate side walks, renders Paris, for pedestrians, a most uncomfortable abode.

My thermometer, whose scale is Fahrenheit's, has not indicated a temperature in the atmosphere below 30 deg. this season. On the 30th of November, at 9 A. M. the mercury stood at 30, when a pretty severe frost was visible on the ground. On the 28th of the same month, the snow fell about two inches deep, but it was wholly dissolved by the influence of the next day's sun. Two, or three times since, the earth has been whitened with snow, but it disappeared within forty eight hours. Sleds and sleighs are unknown here. They are never used, it is said, in England.

We have lightning and thunder, frequently,—more frequently, than I have ever known them to occur in Vermont. A vast number of the Parisian edifices are furnished with lightning rods, and the government are adopting measures to render them still more general. These rods terminate at their upper extremity, not in *three* points, as they commonly do in America, but in a single point, and I can conceive of no possible advantage, which results from our mode of constructing them, over that of the French.



## CONTINUATION.

December 26.

I must not omit, my dear friend, to inform you, that I have, at Mr. Parker's met, several times, the

## MARQUIS DE LA FAYETTE.

It afforded me exalted satisfaction to see, and to converse with, a personage for whom I had, from childhood, been led to cherish the profoundest respect; one who was the avowed and sincere friend of Americans, and had acted so conspicuous a part in our tremendous struggle for independence; one, who, actuated by the purest motives, had commenced a revolution, which, in its progress, though unpremeditated, and by him unwished for, had prostrated the government of his country, and brought thousands of virtuous characters to the scaffold; one, who had survived a long imprisonment, attended by the most unparalleled cruelties. His appearance is very prepossessing. He is tall and slender, but well proportioned; his manners are elegant, but totally unaffected; his mein remarkably modest and unassuming. He is less loquacious than most of his countrymen; though, in small parties, is tolerably fond of conversing. Seated next to him, the other day at dinner, he made a number of inquiries of me respecting the prosperity of our country, and, especially respecting the progress of American literature and the sciences.

The Marquis is a little lame. One leg appears to be somewhat shorter than the other. Whether this misfortune is natural, or the effect of a wound, or some other casualty, I did not learn. He has a young look. From his appearance, I should not judge, that he had seen more than fifty winters. But, knowing, that he was a general in the American army in 1781, though then styled by the



British commander, "*the Boy*," he must, I suppose, at the present period, have attained nearly the age of three score.

In the face of a distinguished hero, we are apt to look for some characteristic indication of military greatness; or at least, we expect to discover a degree of sternness;—something indicative of hardihood; something that bespeaks severity of character. But of these there is nothing observable in the exterior of the Marquis de la Fayette. His countenance is always placid; always carries on it a gentle smile; always tells you, that nature has imparted to his soul no ferocity; that his heart is the seat of more humanity, of more tenderness, of acuter sensibility, than ordinarily fall to the lot of brave warriors. This veteran is, at the present moment, covered with the vail of sorrow. Mr. P. has just received a billet from him. "I have lost," writes the afflicted general, "the angel, who has blessed my life for thirty four years. She expired softly in my arms on the last Thursday evening, and gave testimony of her affection to me to the latest breath."—She is said to have been considerably older than the Marquis, and to have exhibited a rare instance (rare in this country, but not in our own,) of the unconquerable strength of her conjugal attachment. It will give you pain, my friend, to learn, that the pecuniary condition of this illustrious nobleman, is far from being enviable. His circumstances are often not a little embarrassed. His revenue, I am informed, is extremely contracted.

At Paris, every body burns wood, except the lowest classes of the inhabitants, who employ pitcoal, which abounds in various sections of France. The forests, in the empire, taken in its present extent, cover, it is estimated, near 30.000.000 of acres, and yet wood is high. I bought,



this morning, according to my measurement, one quarter of a cord, for which I was charged 23 *livres*. A cord, at this rate, would amount to 92 *livres*, or \$16.86. This I understand, is the price of *common* wood, or that, which is floated down the river. The charge for that, which is conveyed into town by teams, is more exorbitant. Coal is a much cheaper fuel.

Chimney-building, one would suppose, has here undergone no melioration since the flood! Many of the fire-places are sufficiently large to contain the whole family.—Two or three individuals, at least, might, in a cold day, find comfortable seats in the chimney, at each end of the fire; and these are the only comfortable ones in the room. They are like those, which existed, twenty or thirty years ago, in some parts of New-England. The jambs are placed nearly at right angles with the back. Most of the heat remains pent up in the corners, and is lost. I have had my fire-place *Humfordized*, and expect to save in wood, during the winter, enough to pay the expense. The additional comfort I shall experience will be clear gain.

I occasionally attend a literary and scientific levee, held, one evening in the week, during a portion of the year, by

MISS HELEN MARIA WILLIAMS.

To this celebrated authoress I was introduced by my friend, Mr. Warden. Her parties are composed of French personages, who are chiefly devoted to the cultivation of the sciences and literature; and of foreigners. I know not when I have passed a couple of hours more agreeably, or more profitably, than I did at her house a few evenings since. A large number of eminent literati from different countries were present. A spacious apartment was filled



to overflowing. Here the stranger may feel himself perfectly at his ease. No restraint is laid on him, except what common civility imposes. He may sit, or walk about the room, as he pleases, hold intercourse with whom, or on what topick (politicks excluded) he chooses, or listen to the often highly interesting conversation of others.

This is an admirable school for the acquisition of intelligence respecting what is passing in the literary and philosophical world. You are here indulged, not only with "the feast of reason, and the flow of soul;" but also, with an ample gratification of the palate. In the course of the evening, you are abundantly regaled with coffee, ice-creams, pastry of innumerable sorts, *liqueurs*, &c. &c.

Miss Williams is a lady of English origin. She migrated to this country in the early part of the revolution. The cause was this. She had fallen desperately in love with the new-born infant, French Liberty, and came to embrace her. She was deceived. The child appeared beautiful at a distance, but ugly on approaching it. It was virtuous, when young; but grew in vice, faster than in years. In the cradle, it was playful and amiable; in youth attractive, but deceitful; in old age, a prostitute and a murderer. Miss Williams was brought to her senses by suffering. In the "reign of terror," she was, for a considerable period, imprisoned, and in hourly expectation of losing her head. She has few personal attractions, but possesses an excellent understanding, highly improved by reading, study, and an intercourse with the learned and polite world. She is a large woman, walks a good deal inclining forward, and is, as she advances in life, becoming fleshy.

You may deem it singular, that I should have remained



so long in the French capital without saying one word to you, in relation to the

MUSEE NAPOLEON,

and the other repositories of the fine arts. The truth is, my dear friend, that I have, till now, refrained from describing them, that I might, first, obtain all the information, which I had leisure to seek, and communicate it to you, at once. I have not, I assure you, been withheld from frequently resorting to these enchanting collections. This, to any one, who had in his soul, the least particle of curiosity, would be impracticable. I go, every few days, to gaze at them, either alone, or in the company of my friends; but as I am not a connoisseur in productions of the chisel, or the pencil, my account of them will be very brief.

The most numerous, and incomparably the most precious, assemblage of pictures and statues at Paris, is to be found at the Louvre. This edifice, which adjoins the palace of the Thuilleries, is regarded by many, as the most superb structure in France. The grand gallery of paintings is on the first floor, and is an apartment of the most astonishing dimensions. Its length is 1300 French feet, and its breadth about 30. You ascend to it by a well constructed, stone stair-case. I have in my hand a catalogue of the objects, composing the museum, printed last year, which informs me, that the paintings then exhibited, which were the products of foreign schools, amounted to 1398. This number has since been greatly augmented, and is daily augmenting. These pictures have chiefly been plundered from the conquered countries; most of them from Italy, Flanders and Holland. Every new victory brings a new acquisition to the Musee Napoleon. Near a 1000 valuable paintings, we are told, now lie in the magazines of the Louvre unopened, because there is no room for their exhibition.



The first effect produced on the mind of a stranger, by being suddenly brought into the midst of this little world of artificial *merveilles*, into the midst of this multitudinous assemblage of defunct personages, is totally indescribable. Words can convey no idea of it. To know the effect, you must be here and feel it.

The first time I visited the grand gallery, I looked a moment at this picture. and a moment at the next, and thus successively paid my respects to them all. Before I had completed half the tour of the gallery, my mind became strangely wearied and confused. The paintings, however different their merits, all began to appear alike.—This transient inspection afforded me no real delight, and I then determined to adopt, the next opportunity, another course—to examine only three or four of those pieces, which were reckoned *chefs-d'œuvre*, and to pass unnoticed all the remainder. The result exceeded my warmest anticipations. The longer I looked at, and contemplated, a good picture, the greater was the number of excellencies, and the more striking, which rose to my ravished eyes—excellencies, which had before utterly escaped my observation.

A large proportion of the paintings represent subjects of a religious character. Nearly all the remarkable occurrences in the sublunary life of our divine Saviour, as well as many of those in the lives of the apostles and eminent primitive Christians, are here to be seen on canvass.

If I ever had any feelings, such as I can expect to approve in the trying hour of my dissolution, they were excited while meditating on the picture, which exhibits Christ bearing his own cross to the place of execution.—The Redeemer seems exhausted, and succumbs under the ponderous load, when two of the executioners roughly lay



hold of it, and hurry it forward, manifestly, with no other intention, than to hasten the accomplishment of Herod's execrable decree. It is the production of Paul Veronese, an Italian artist. The workmanship is not superior to that of several other paintings. For the effect it generates, it is wholly indebted to its subject. It recalls to the mind an event ineffably solemn ;—an event, the most awful the sun ever shone on ;—an event, at which supernal beings might have wept,—but an event, which, shocking to relate, mortals, whom the Son of God came to rescue and to save, could behold with indifference, or rather with contumelious disdain.

The paintings, which I studied with most pleasure, are the following : Albani's representation of the Holy Family in Egypt : Eneas, with his father Anchises, placed on his shoulders, whom he is endeavouring to deliver from the conflagration of Troy : The marriage at Cana in Galilee : The resurrection of Lazarus : David cutting off Goliath's head : Abimelech, king of Salem, presenting bread and wine to Abraham : John the baptist baptizing his Lord : Carracchi's admirable landscape picture of the death of Absalom.

This last is, indeed, a masterpiece. The strength of colouring is wonderful. The scene is natural. It lies in the woods of Ephraim. Absalom's army being overcome by that of his royal father, he, mounted on a mule, betakes himself to flight. Passing under the thick boughs of a wide spreading oak, his dishevelled hair becomes entangled with the branches ; the mule, moving on, abandons him, suspended between the heavens and the earth. The cruel Joab, regardless of the strict injunction of his sovereign, approaches, and, with a lance, sends to the bar of God the spirit of this unnatural rebel.



Here is a fine painting of Adam and Eve in the garden of innocence. The mother of mankind is presenting to her husband the fatal, interdicted, apple.—The crucifixion of the apostle Peter: Daniel in the den of Lions: Christ's head crowned with thorns: Incredulity of Thomas: Return of the Prodigal Son: The last judgment. This picture is the subject of merriment for infidel and atheistical visitors. The scene, which the artist endeavoured to portray, they regard as the phantom of cracked-brains. I have seen them, standing before it, ridiculing, in the most impious manner, every part of the solemn transaction. But it creates widely different sensations in the bosoms of those, who confidently believe in the reality of a future retribution. With the assistance of the catalogue *des tableaux*, I will describe it.

Jesus of Nazareth appears in all his God-like majesty, an inexorable judge, to distribute to each individual of our race the reward of his deeds. A number of the saints, in an act of the profoundest adoration, are prostrate at his feet. The elect, with a mildness and humility displayed in their countenances, which language cannot express, contemplate him. The prophets silently wait the destiny of their fellow immortals. The sun is darkened. The stars are falling. The book of life is opened. The angels are sounding their trumpets, and assembling the "quick and dead" from the four quarters of the world. The wicked are separated from the righteous, weighed in a balance, found wanting, and then precipitated into a lake of fire and sulphur, which emits a dense smoke. Angels of darkness, armed with all sorts of terrifick weapons, and exhibiting the most ferocious aspect, rise in multitudes to seize the condemned, and hasten their descent to the abodes of despair. The righteous stand around the throne, with eyes,



beaming gratitude, steadfastly fixed on the Judge, as their Saviour, their Intercessor, their Friend, their All.

Who, my dear sir, will venture to affirm, that works of the pencil ; such as these ; have a demoralizing tendency ? Who will deny, that they are promotive of virtuous feelings, and virtuous actions ? They display nothing, which is, in itself, calculated to awaken the unhallowed passions ; nothing, that can arouse a spirit hostile to the religion of the blessed Jesus ; nothing, that can excite irreverence for the Oracles of God : but much to recal to the mind, the inestimable blessings of the gospel ; much to influence man to an obedience of its holy precepts ; much to remind him of the end of life, and of the incalculable importance of timely preparation for death and for heaven. I should leap for joy, to see such a splendid establishment ;—such a magnificent exhibition of the works of genius, taste and art—in our own country.

“ But, are they all,” you will ask, “ of this faultless description ? All unexceptionable ?” By no means. There is an inconsiderable number, which you, who are a staunch protestant, could not behold without feeling, at least, a slight agitation of your risible muscles. Here is a *tableau* of the Virgin Mary seated on a lofty throne : Another, representing the translation of her body to heaven : Another, which exhibits Christ delivering the keys to the apostle Peter ; and a few more of a similar character ;—all attributable to Roman Catholic superstition.

But let us descend to the ground-floor, and see how the great personages—the gods and men—of Egypt, and Greece, and Rome, appear in stone, and in bronze. The space on the floor, under the gallery of pictures, is separated into a number of apartments, which have received appropriate appellations. One is denominated the



## SALOON OF THE SEASONS ;

because a representation of the four seasons of the year is painted on its ceiling. In this hall are placed the statue of Venus coming out of the bath ; a Faun, intirely naked ;—Cupid bending his bow ; the goddess Diana, of Parian marble, a beautiful figure, which formerly adorned the palace of Versailles ; a bust of Augustus wearing the civick crown ; a colossal statue of the monster Nero, the Roman Emperor ; and many other interesting antiques, which I have not time to particularize. From this, you pass into the

## SALOON OF ILLUSTRIOUS MEN ;

so called, doubtless, because it was destined to be the resting-place of a number of celebrated characters, who were travelling from the East to the West ; such as Demosthenes, the king of Grecian orators ; Zeno ; Phocion, of Pentilican marble ; Tragan, Menander, &c.—This division of the gallery of antiques is ornamented by eight stately pillars of grey granite, brought from Aix-la-Chapelle, where they once decorated the tomb of the emperor Charlemagne. Let us hasten on to the

## SALOON OF THE ROMANS.

On the ceiling of this apartment are several well executed paintings. They represent History and Poetry celebrating the successes of Bellona ; the Rape of the Sabines ; the deputies of the Roman Senate, bearing the consular purple to Cincinnatus ; the continency of Scipio ; the courage of Mutius Scævola.

Here are to be seen a bust of the emperor Adrian in bronze ; another of Scipio Africanus ; an elegant statue of Ceres, the goddess of agriculture, of Parian marble ; statues also of the Roman orator, Germanicus ; of Augustus, formed of Pentilican marble ; of Marcus Junius Brutus, the



assassinator of Julius Cesar ; of Urania, a superlatively beautiful little figure ; of a dying gladiator, wrought by Agasias, a sculptor of Ephesus, who lived 450 years before Christ. But we have been long enough detained in this part of the gallery. We will next visit the

#### SALOON OF LAOCOON.

You recollect the fate of Laocoon, the priest of Apollo, and his two little sons, so admirably related by Virgil.— We read it, in our boyish years, with unutterable sensations. We shuddered to think of the two monstrous snakes proceeding from the deep, attacking, first, the defenceless innocents, winding their horrid forms around their infant bodies, griping them to death, and then feasting on their mangled limbs, yet quivering with life. They next, as you remember, assail the father, who comes, armed, for the succour of his tender offspring :

“ et jam

Bis medium amplexi, bis collo squamea circum  
Terga dati, superant capite et cervicibus altis.”

The whole of this affecting scene is here represented in marble, and is considered one of the most inimitable performances of antiquity. The sculptors, who produced this masterly group, lived, it is asserted, in the first century of the Christian era. It was found at Rome in 1506, among the ruins of the palace of the good emperor Titus. Laocoon is associated with excellent companions ; a Meleager ; an Amazon ; a Jason ; an Adonis ; a Jupiter ; a Bacchus ; an Antinous ; a Venus de Medicis ; a priest of Mithra, *et ceteros*.

This room is adorned with eight pillars, four of them of red porphyry, and four of *vert antique*, a species of green marble, found in the vicinity of Thessalonica. But it is time to proceed to the



## SALOON OF APOLLO;

which is, by far, the most capacious of the apartments, and is ornamented with four elegant pillars of red oriental granite brought from Upper Egypt. Besides these, there are in this hall, numerous valuable antiques; such as a statue of Minerva, of Lunician marble; an Egyptian god, in alabaster; a Mars; a Melpomene; a *Venus du Capitole*, a *chef-d'œuvre*, produced, it is believed, by the chissel of Bupalus, who flourished about 600 years before Christ.— But the statue, which attracts, and fixes, and rivets to itself, the supreme attention of every visitor; and the one from which this magnificent saloon derives its appellation, is that of *Apollo du Belvedere*.—It is incomparably the most elegant figure I ever fastened my eyes on. It stands in an elevated recess. The steps, which lead to it, “are paved with the rarest marble, inlaid with squares of curious antique mosaick.” The god is represented as having, at that instant, hurled the fatal arrow at the serpent Python. In his left hand he holds his formidable bow, which his right hand has just resigned. “All his members still preserve the impression given them by this action. His hair, slightly curled, floats in long ringlets round his neck, or is gracefully turned up on the crown of his head, which is encircled with a fillet, characteristick of kings and gods. His quiver is suspended by a belt to the right shoulder; his feet are adorned with rich sandals. An eternal youth is spread over all his beautiful figure—a sublime mixture of nobleness and agility, of vigour and elegance.”

I cannot extol this superb monument of the perfection, which ancient sculpture had attained, quite so highly as a French writer does. “*Elle n'est point le fruit du faible genie des mortels,*” says he, “*comme les mondes, elle semble sortie des maines de l'Eternel.*” It is, we must ac-



knowledge, a production of human genius, but who its author was, is utterly unknown. He is supposed to have been a Grecian, but his name, in the lapse of ages, has, unfortunately, been lost. This statue, which has been, for hundreds of years, almost adored by amateurs and connoisseurs of the fine arts, was once a shapeless mass of Carrara marble, white and fine, but, in my judgment, not whiter, nor finer, than some small specimens, which were presented to me, before my departure from America, by the agent of the Middlebury marble manufacturing company, and were dug from the quarry in that village. This *chef-d'œuvre* was discovered towards the conclusion of the fifteenth century, among the ruins of old Antium, a city, which was once the metropolis of the Volscians. It was, soon after, deposited in the Belvedere of the Vatican at Rome, where it continued, the admiration of the world, till the conquest of Italy, by the French, caused its transportation to Paris, to enrich the "Central Museum of the Arts," now the "*Musée Napoleon*."

We have, my friend, nearly completed our walk through this "terrestrial elysium." But one apartment remains to enter. It is dedicated to the "Tuneful Nine," and is, on that account, styled the

#### SALOON OF THE MUSES.

Here are exhibited the substantial representations, not only of the Nine Muses, but also those of numerous celebrated poets and philosophers; such as Homer, Virgil, Socrates, Euripides, Hippocrates, and a multitude of others.

I have, my dear sir, enumerated but few of the objects belonging to the splendid gallery of antiques. Many of



the most valuable of these monuments of sculptural art have been pillaged from the museum of the Vatican, and other Italian collections.

I cannot speak so favourably of the moral effect generated by the exhibition of statues, as I did of that produced by the exhibition of paintings. It is far from being salutary. It is not even harmless. It is, in my view, a copious fountain of corruption. I should be less opposed to the publick exhibition of them, were not the statues, with a few solitary exceptions, presented to the eyes of all gazers, in a state of absolute nudity. Several Parisian moralists, and among others the Abbe Gregoire, have raised their voices loudly against this enormous indecency, but have raised them in vain. An undisguised display of every part of the human figure has, beyond contradiction, a potent tendency to produce, and does actually produce, a lamentable deterioration of the morals of any community to whose inspection the representation is exposed.

With another assemblage of the works of the fine arts, allow me, my friend, to detain you ten minutes. It is in the palace occupied by the Conservative Senate; a superb edifice, erected in 1616, by order of Mary, the widow of Henry IV. The ground, on which it stands, was purchased of the duke of Luxembourg. It is, therefore, sometimes called the *palais du Luxembourg*. It has a spacious garden attached to it, which has recently been enlarged, and planted with thrifty trees of the sugar maple.

I went, a short time since, to view the curiosities of the palace. The doors were closed. The publick, I afterwards learned, are admitted, only on Sunday and Monday, of each week. My visit was on a later day. The porter, perceiving that I was a foreigner, demanded my passport, or rather my *permis de Sejour*; at sight of which, he cheerfully



threw open the doors. Such is the liberality to strangers, which you every-where meet with at Paris. To all the publick institutions, I have been readily admitted, gratuitously, on the presentation of my passport.

I ascended to the first floor by an elegant *escalier*. The pictures are separated into several distinct galleries. I shall confine my remarks to one, viz. the gallery of Rubens. It consists of twenty four *tableaux*, all executed by the same artist, and all connected with the history of *Marie de Medicis*. They were painted at the request and expense of that haughty queen, who, you know, afterwards experienced a sad reverse of fortune; being banished her kingdom, driven from state to state, by the relentless persecution of cardinal Richlieu, and at length died of hunger in a garret at Cologne. You are not ignorant of the high reputation, which Rubens acquired, as a painter. It would, I imagine, be impossible for you to examine these admirable productions, without being compelled to acknowledge, that his reputation was not higher than his merit. The picture, which interested me most, was that which represents the reconciliation of *Marie* with her son, Louis XIII.

A few other paintings, besides those of Rubens, are suspended in this gallery. Of these, the *tableau* of Brutus entering his house, after having condemned to death his two sons, is the one most extolled. It is indeed a masterpiece, and came from the skilful pencil of the revolutionary David, who is still living.

A number of statues and vases adorn the palace and garden, but they are by no means equal in beauty to many, which are exhibited at the gallery of the Louvre.

There is now at Paris, an American gentleman, a painter, who has attained a good degree of eminence in his pro-



fession. His name is Vanderlyn. He is a native of New-York, and of Dutch descent—an agreeable and intelligent man. He had, before he came to this city, been resident at Rome, during a considerable period, studying the elegant monuments of the fine arts, with which that capital was, till lately, so abundantly replenished. He is now employed in placing on canvass the American ambassador, General Armstrong, and Lady.

It is a fact, not a little curious, that the western continent, which European writers have basely stigmatized, as producing nothing but intellectual, as well as corporeal pigmies, has, notwithstanding, furnished Europe with several of her most distinguished artists. While in England, I heard no painters spoken of more encomiastically than West and Trumbull. The former has enemies, and bitter ones, but this is the lot of all great men. These gentlemen have, by the mere efforts of their own superlative genius, unaided by the powerful auxiliaries of wealth and connections, forced themselves, in spite of all opposition, into public notice, and achieved an enviable reputation, even among the inhabitants of the old world. In Mr. Vanderlyn's opinion, West is, in almost every respect, vastly superior, as a painter, to David, who is acknowledged to be the first in his profession, of whom France can boast.



#### A CONCISE ACCOUNT

*Of the institution, transactions, and present condition of the  
MIDDLEBURY COLLEGE CHARITABLE SOCIETY:  
To which is annexed a list of its Patrons.*

IN August 1813, a number of gentlemen in this vicinity, deeply impressed with the importance of furnishing the churches with pious and well educated clergymen, and un-



derstanding, that many young men, in this section of the country, of promising talents, and of unquestioned piety, were prevented, by pressing poverty, from qualifying themselves to become the heralds of salvation, felt it to be their imperious duty to form an association, whose object should be to encourage and assist such persons in obtaining a liberal education. A meeting, with this view, was held at the Court House, on the 17th of the same month, and a Society organized. The draught of a Constitution, which had been previously prepared, was read, adopted, and ordered to be published.

### CONSTITUTION.

ARTICLE I. This Society shall be known by the name of "THE MIDDLEBURY COLLEGE CHARITABLE SOCIETY;" and its object shall be to assist indigent young men, who design to enter the gospel ministry, in obtaining a liberal education.

ART. II. Any person may become a member of this Society by subscribing and paying the sum of two dollars, and may continue a member, by paying annually the sum of one dollar; and any person may become a member for life by paying, at one time, the sum of twenty dollars.

ART. III. The Officers of the Society shall be a President, Vice-President, Secretary, and five directors, who shall be chosen at each annual meeting, by ballot.

ART. IV. There shall be an annual meeting of this Society, at the Court-House in Middlebury, on the Tuesday preceding each Commencement at Middlebury College, at three o'clock in the afternoon: At which time some clergyman shall be chosen to preach a sermon at the succeeding annual meeting.

ART. V. The money subscribed and contracted to be paid to promote the design of this Society, shall be payable to the President and Fellows of Middlebury College, and paid into the hands of their Treasurer; and the same shall be controuled and



disposed of by said President and Fellows, agreeably to the provisions and principles of this Society.

**ART. VI.** No person shall receive assistance from the funds, raised by means of this Society, except young men of respectable talents, and such as are regular and hopefully pious members of some Christian Church. And each Society or individual subscribing, or making donations may designate the denomination, to which the persons assisted by the money by him or them paid, shall belong.

**ART. VII.** It shall be the duty of the Directors to judge and decide upon the qualifications of all persons applying for assistance from the Society; they shall have the exclusive right to designate the person, who shall receive assistance,—how much each shall receive, and whether by loan or donation. And no person shall receive any assistance except such as are approved by the Directors: Whose certificate in writing giving their direction, shall be sufficient authority to said President and Fellows, or their Treasurer, to pay out any money raised by means of this Society. *Provided*, however, that in case the Society shall at any time neglect to appoint Directors, the said President and Fellows may appoint five persons, who shall have the same powers as the Directors appointed by this Society, until the next annual meeting.

**ART. VIII.** Auxiliary Societies formed for the promotion of the object of this Society shall have a right to send one representative to the meetings of the Society for each twenty dollars annually raised and paid to promote said object. And such representatives shall have all the rights and be admitted to all the privileges of members at said meetings.

**ART. IX.** Any Society, or individual, who shall contribute the sum of fifty dollars, or more, shall have the right, within one year after the donation is made, to designate the person or persons, to whose assistance his, or their donation shall be applied.

**ART. X.** It shall be the duty of the Directors, at each annu-



al meeting of the Society to cause to be laid before the Society the state of the funds ; including an account of the receipts and expenditures, together with the number of applicants for assistance, for the preceding year.

ART. XI. No alteration shall be made in this constitution, unless proposed by vote of the Society at one annual meeting and passed at a subsequent annual meeting by a majority of two thirds of the members present.\*

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\* At an annual meeting of the Society, holden 16th August, 1814, the following article was adopted, and became part of the Constitution.

“ Any person, or association of persons, who may hereafter make a donation to this Society of the sum of fifty dollars, or more, may direct the same to be vested in a permanent fund, and the interest only to be annually applied to the objects of the Society : The permanent fund of the Society shall be committed to the management of the Directors for the time being.”

The following amendments to the Constitution were adopted, at a regular meeting of the Society, holden, 17th August, 1815.

“ Any person may become a member of this Society by paying the sum of two dollars : and each member shall be holden to pay annually the sum of one dollar, until he shall give notice to the Treasurer of Middlebury College, that he wishes his name erased from the list of members.”

“ Any person, paying the sum of ten dollars, shall be a member for life.”

“ The members of all Auxiliary Societies, where the consideration of membership is not a less sum than one dollar for admittance and one dollar annually for continuing a member, shall be members in all respects of this Society.”



The following persons were elected to fill the respective offices, annexed to their names, agreeably to the Constitution.

Rev. Henry Davis, D. D. *President.*

Hon. Gamaliel Painter, *Vice-President.*

Samuel Swift, Esq. *Secretary.*

Prof. Frederick Hall,

Rev. Thomas A. Merrill,

Rev. John Hough,

Rev. Bancroft Fowler,

Hon. Chauncey Langdon,\*

} *Directors.*

The Rev. Heman Ball was appointed to deliver a sermon before the Society at their next annual meeting. The Rev. Chester Wright was chosen as his substitute.

Every year since the Society was formed, an annual meeting has been holden at the Court-House, on the Tuesday preceding the publick commencement in Middlebury College, at which the officers for the ensuing year have been elected, the Report of the proceedings of the Directors exhibited, and all other business, which claimed the Society's attention, transacted. The anniversary sermon in 1814 was delivered by the Rev. Chester Wright of Montpelier. It was evangelical and well adapted to the interesting occasion. It was afterwards printed, and is now in the hands of the publick. In 1815, the Society was entertained by an ingenious and elaborate discourse pronounced by the Rev. Holland Weeks. On the evening of their anniversary in 1816, the Society, together with a vast assemblage of citizens and strangers, convened in the meeting house, listened to an elegant and highly appropriate sermon from the Rev. Bancroft Fowler. The gentleman ap-

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\* All these gentlemen hold the same offices at present, except the Rev. Bancroft Fowler, whose place, as Director, is filled by the Rev. Chester Wright.



pointed to preach before the Society at its next annual meeting is the Rev. Dr. Proudfit of Salem, N. Y. Rev. Dr. Ball is elected to deliver a discourse in case of his failure.

The following Report of the doings of the Directors was read before the Society at their annual meeting in 1816 and adopted.

The Directors respectfully submit to Middlebury College Charitable Society the following Report of their proceedings, the past year.

During this period, they have extended aid to nine young gentlemen. Three of these have now completed their collegiate studies. The remainder still continue objects of their patronage, and will require assistance from the funds of the Society, the ensuing year. One young gentleman, who, at the last annual meeting, was under the patronage of the Directors, has been removed by death.

The applications for assistance have been more numerous the past year, than at any former period. Ten young gentlemen of hopeful piety, of the requisite talents and in indigent circumstances, have received encouragement, that, should they attempt to gain an education, with a view to entering the sacred ministry, they should be favoured with aid from the funds of the Society. Several of these will require assistance, the ensuing year. How many the Directors cannot precisely state. Several other young gentlemen have been mentioned as proper candidates for the beneficence of the Society, although no formal application has been made in their behalf.

The Directors have much pleasure in stating to the Society the very liberal donation from the Hon. William Hall of \$500 to the permanent fund; an instance of Christian benevolence, which they hope will not fail of occasion-



al, if it should not receive frequent, imitation. They would also notice with gratitude the generosity of the Grand Chapter in this State in presenting the Society with a donation of \$50 also to the permanent fund. They would also state for the information of the Society, that they have received from the Evangelical Society the sum of \$442,57 in notes. On these but little, if any thing, can be soon realized; and not a small portion of the nominal amount will probably never be obtained. The avails of the donations of books, reported at the last meeting, have as yet been inconsiderable. A large share of the amount of those donations must, however, be received before an extensive interval. Of a part, it is impossible to say when it will be at the disposal of the Directors. The Report of the Treasurer will exhibit the amount arising from donations and from the annual payments of the members.

In order to meet the demands upon the Society, it must be apparent, from a slight inspection of its funds, that the receipts hereafter must be far more considerable than they have been the past year. Under this impression, the Directors hope and trust, that the exertions of its members and friends will be vigorous, and their liberality enlarged, to a degree commensurate with the importance of the object, which the Society has in view.

The Society has already, the Directors confidently believe, been of no slight service to the cause of Christ, by preparing the way for some young men of highly promising talents to become qualified to proclaim the great truths of salvation. But much remains to be done. The numerous revivals of religion, which have recently existed, will furnish many indigent youth of the highest promise, whose views will be turned from other and inferior objects to the most beneficent and important of all employments, preach.



ing the unsearchable riches of Christ. And the call for bringing forward and training up for the sacred ministry every pious and promising youth, who is willing to engage in its duties, is loud and imperious. Not only is it true, that on the right hand and on the left, even among ourselves, the vineyard of the Lord is unsupplied with labourers ; but our churches are fast becoming destitute and, unless measures prompt and efficient are adopted to prevent it, will soon exhibit a scene of wide and deplorable desolation. Immense regions and vast multitudes in other parts of our country are almost entirely unfurnished with the heralds of the cross. And millions and millions of the heathen in various regions of the earth are perishing for lack of vision. The Directors, therefore, make their appeal to the liberality of the pious and benevolent, with a confident hope, that no one, who values the honor of his Saviour and the welfare of immortal souls, will regard with indifference, or patronize but feebly the invaluable object, which the Society has in view, till every where the great truths of the gospel are published, and Jew and Gentile are brought to bow before the cross of Christ.

Submitted by order of the Directors,

JOHN HOUGH, Clerk.

August 20th, 1816.

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Since the institution of this Society, sixteen young gentlemen have received aid from its funds, in defraying the expenses of their education ; a part of which number are now proclaiming the glad tidings of the gospel to their fellow sinners ; a part are pursuing theological studies, preparatory to their admittance into the sacred ministry, and the remainder, one excepted, are still in College.



1817.

*Middlebury College Charitable Society.*

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## JOHN SIMMONS, TREASURER OF MIDDLEBURY COLLEGE CHARITABLE SOCIETY.

Dr.

1817	To amount of subscriptions of membership	}	\$ 626.00
April 1.	and annual assessments of members from the commencement of said Society, up to August 22, 1816.		
	To amount of individual donations, interest received on monies loaned, and subscriptions to the permanent funds of said Society,	}	1797.16
	To amount of interest due on sundry notes and claims, in favor of the Society up to April 1, 1817,		
			186.83
			<hr/> \$ 2609.99

Cr.

1813	By cash paid for book for Treasurer's		
Oct. 15.	accounts,		\$ 1.
1814	By do. do. Pliney Fisk by order of		
Feb. 3.	Directors		30.
	By do. do. T. C. Strong		9.
	By 2 counterfeit bills received in contributions		6.
	By amount due on subscriptions of membership and annual assessments of members, up to Aug. 22, 1816.	}	87.
	By sundry notes taken for monies loaned, including those given toward a permanent fund, and interest on the same to this 1st day of April 1817,		
1817.			249.196
April 1.	By cash in the Treasury this day		15.
			<hr/> \$ 2609.99

## AUDITOR'S CERTIFICATE.

I hereby certify that I have examined the above account and find the same correct.

JOEL H. LINSLEY, Auditor.

Middlebury, April 2d, 1817.



## LIFE MEMBERS AND DONORS.

Abbot, Miss Ann, Deering N. H.	- -	\$10.00
Averill, Heman and Mrs. M. Hartford, Con.		10 00
Bates, Isaac C. Esq. Northampton, Mass.	-	10.00
Brace, Hon. Jonathan, Hartford, Con.	- -	20.00
Brace, Thomas K.	do. - -	3.00
Buck, Daniel	do. - -	20.00
Castleton, Congregational Society of, being a contribution, by the Hon. Chauncey Langdon,		10.15
Chapter, Grand of the state of Vermont, by the Rev. Mr. Bradley, (toward the per. fund)		50 00
Church, Mrs. Ann, Hartford, Con.	- -	10.00
Contribution, received by Rev. T. A. Merrill		17.00
Davis, Mrs.	- - - -	1.00
Dodge, Nathaniel	- - - -	1.00
Davis, Rev. James	- - - -	10.00
Davis, Rev. James (permanent fund)	-	77.00
Dwight, Josiah Esq. Northampton, Mass.		10.00
Friend, a Female, Hartford, Con.	- -	10.00
Another, do.	- - - -	10.00
Another. do.	- - - -	3.00
Gentleman, an aged, Cornwall, by Rev. Mr. Bushnell,	- - - -	1.00
Gridley, Deac. Eber	- - - -	10.00
Hall, Professor F.	- - - -	20.00
Hall, Hon. William	- - - -	20.00
Hall, Hon. William (permanent fund)	-	500.00
Hall, Daniel W. Charleston, S. C.	-	20.00
Higly, Erastus	- - - -	3.00
Homes, Henry, Boston, (in two donations)	-	60.00
Hooker, William G.	- - - -	20.00
Hudson, Barzillai, Hartford, Con.	- -	20 00
Hunt, Hon. Ebenezer, Northampton, Mass.		20.00



Huntington, Gen. Jedediah, New-London, Con.	
(permanent fund)	50 00
Kimball, Edward, Bradford, Mass.	1.00
Lady, a young, Montpelier,	2.00
Ladies, several, in Brownington, by Rev. C. Wright	4 52
Lad, a young	50
Langdon, Hon. Chauncey, (permanent fund)	75.00
Ladies, a number of, in Cornwall by Rev. Mr.	
Bushnell,	13.76
Lyman, Jonathan H. Esq. Northampton, Mass.	10 00
Man, a young. by Mrs. Strong,	75
Merrill, John, Deering, N. H.	1.00
Merrill, Deac. Thomas, do.	10.00
Mills, Hon. E. H. Northampton, Mass.	10.00
Morse, Rev. Dr. Charleston, Mass. (in books)*	20 00
Munson, Israel, Boston	30.00
Parish, Rev. Dr. Byfield, Mass. (in books)	100.00
Patten, Mrs. Ruth, Hartford, Con.	50 00
Perkins, Hon. Elias, New-London, Con. (per. fund)	75.00
Person, an unknown	3.00
Porter, Rev. Dr. Eben. Andover, Mass.	20.00
Proudfit, Rev. Dr. Salem, N. Y. (in books)*	50.00
Ross, ——— Esq.	5.00
Sherrill, Doct. Nathaniel	10.00
Smith, His Excellency John C. Sharon, Con.	20.00
Sheldon, Elisha, Esq.	25.00
Society, Evangelical, in notes, and interest on them,	442 57
Society, a Female, by Wm. G. Hooker	15.00
Society, Female Cent, Poultney	15.00
Society, Female Cent, Pawlet *	40.00
Society, Female Cent, Middlebury, by Mrs. E.	
Starr, their Treasurer, (in four donations)	129.00

\*These donations are not included in the Treasurer's Report.



Society, Female Cent, Chelsea, by Mrs. S. Noble,	
the Treasurer,	18.13
Strong, Deac. Oliver	1.00
Thomson, Doct. New-London, Con.	10.00
Wadsworth, Daniel, Hartford,	20.00
Wadsworth, Madam, do.	15.00
Watkinson, John R. Middletown,	15.00
Williams, Thomas S. Hartford,	3.00

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THE MEDLEY NO. XII.

Variety's the very spice of life  
 That gives it all its flavour.

COWPER.

*By a young gentleman of Virginia.*

Too late I stay'd, forgive the crime  
 Unheeded flew the hours,  
 For noiseless falls the foot of time,  
 That only treads on flowers.

Or who, with clear account remarks  
 The ebbing of his glass,  
 When all its sands are diamond sparks,  
 That dazzle as they pass.

Ah, who to sober measurement,  
 Time's happy swiftness brings,  
 When birds of Paradise have lent  
 Their plumage to its wings.

Too late I've staid, forgive the crime,  
 Unheeded flew the hours,  
 For noiseless falls the foot of time  
 That only treads on flowers.



BY MRS. B . . . . . TO HER HUSBAND.

Did I possess the muse's art,  
Or had I power to touch the heart,  
With eloquence of thought—  
To thee, my friend, the strains should flow,  
To thee, the grateful stanzas glow,  
With pure affection fraught.

But me, alas! no NINE inspire,  
With graceful ease to touch the lyre,  
And bid the numbers rise;  
Yet purest love dictates the lay,  
And simple verse would hail the day  
That gave thee from the Skies.

Yes, dearest friend, I hail the morn  
With liveliest joy, when thou wast borne  
Thy Hariot's life to mend;  
With thankful praise I left my heart,  
To him, who made thee what thou art,  
And me thy happy friend.

Oh may this power protect my love,  
Still may his blessing from above,  
Fall clustering round the ways;  
May circling years, soft as they roll,  
Shed constant blessings on thy soul,  
And gild thy peaceful days.

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*Composed by John Howard Payne, during a remarkable mild  
moonlight night at Sea.*

On the deck of the slow-sailing vessel alone,  
As I silently sat, all was mute as the grave,  
It was night,—and the moon brightly glittering shone,  
Lighting up, with its lustre, the quivering wave.



So bewitchingly mellow and pure was that glance,  
Which she darted while watching o'er nature's repose,  
That I thought it resembled CHRISTIANITY'S beam,  
When it softens and soothes, without chasing our woes.

And I felt such an exquisite wildness of sorrow,  
As I gazed at the tremulous glow of the deep,  
That I longed to prevent the intrusion of morrow,  
And stay there forever, and wonder and weep.

—:x:x:—

#### MISCELLANEOUS INTELLIGENCE.

The number of young gentlemen on whom was conferred the degree of A. B. at the Colleges and Universities in New-England at the Commencements, holden in 1816.

Middlebury College,	-	-	17
University of Vermont,	-	-	2
Williams College,	-	-	16
Bowdoin College,	-	-	10
Brown University,	-	-	33
Dartmouth University,*	-	-	24
Yale College,	-	-	61
Harvard University,	-	-	59

Total 222

—:o:—

#### LAW SCHOOL.

The subscriber, having been appointed Professor of Law in the College of Middlebury, has opened a school in this place, for the instruction of those young gentlemen, who are desirous of qualifying themselves for the Bar. For the accommodation of the school, a good room has been pro-

\* The class which received the baccalaureate at Dartmouth University, in 1815, consisted of 31.



vided, and furnished with an extensive law library. Two recitations and two law lectures are, for the present, attended each week, at the room. As soon as proper arrangements can be made for that purpose, a course of lectures, will be publickly delivered in the College, which the law students will be permitted to attend.—The fee for instruction is twelve dollars and fifty cents for each quarter. The great advantages of such an institution, if properly attended, over the private instruction of an Attorney's office, is too apparent to need comment.

NATHANIEL CHIPMAN.

Middlebury, May 5, 1817.

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SCIENTIFICK.

[From No. 1. of the quarterly Journal of Science and the Arts, edited at the Royal Institution of Great Britain.]

‘Thursday, Feb. 22, Sir Everard Home presented an account of the Feet of those Animals, whose progressive motion can be carried on in opposition to gravity.

‘It is well known, that the house-fly is capable of walking upon the ceiling of rooms, in which situation its body is not supported on the legs; but the principle upon which it does so, has not been explained; because the animal is too small for the feet to be anatomically investigated.

‘Sir Everard was not aware that any animal of a much larger size was endowed with the same power, till Sir Joseph Banks told him that the *Lacerta Gecko*, a native of the island of Java, was in the habit of coming out of an evening from the roofs of the houses, and walking down the smooth hard polished chuman walls in search of flies that settle upon them, and then running up again. Sir Joseph, while at Batavia, was in the habit of catching this animal by standing close to the wall with a long flattened pole.



which being made suddenly to scrape its surface, knocked it down. He procured Sir Everard a specimen of a very large size, weighing five ounces three quarters avoirdupoise weight, which enabled him to ascertain the peculiar mechanism by which the feet of this animal can keep their hold of a smooth hard perpendicular wall, and carry up so large a weight as that of its own body.—Sir Everard particularly described the anatomy of the foot of this lizard, which is so constructed as to enable it to produce a number of small concavities which act like so many cupping glasses and atmospheric pressure retains him in his position. The author, having ascertained the principle on which an animal of so large a size as this, is enabled to support itself in progressive motion against gravity, felt himself more competent to examine into the mechanism by which the common fly supports itself with so much facility in still more disadvantageous situations. An account was then given of the structure of the fly's foot, which shewed that it possessed concave surfaces capable of action in the same manner as those of the *Lacerta Gecko*; and that therefore its progressive motion against gravity was effected by the same means.'

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AIR BED.

A very curious piece of furniture has just been introduced at Oakley's, the upholstery branch of the western Exchange. It is an Air Bed. Half a dozen large pipes made of Gold-beaters' skin, are covered with a ticking and quilted together in knotted rows between each pipe. They are then blown full, the bed becomes distended and is sufficiently soft. By turning a cock the air can be let out, and the bed tied up in a pocket handkerchief.

*London Paper.*



## AMERICAN FLINT.

Till within a moderate period, it was questioned whether any genuine flint existed in the northern section of the United States. It remains no longer doubtful. Excellent flint has been discovered in a number of places in Vermont, as well as in several other states. We have some of the very first quality, which was brought from the town of Orwell in this State. We have met with it, repeatedly, in Cornwall, the town next west of Middlebury. It occurs also at Saratoga, N. Y. in the vicinity of the mineral springs. A large quantity of it was recently discovered, by the Rev. N. S. S. Beeman on the eastern margin of Lake Champlain, in the neighbourhood of the Cold Spring. This differs from the flint commonly found in Europe. It occurs, not in small nodules, but in large, irregular masses, weighing from ten to two hundred pounds. It yields fire as freely, when smitten with the steel, as any flint, which we have ever examined.

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EXTRAORDINARY LIGHTNING.

*The Journal of Barcelona publishes an article, dated Alca-cir, in the province of Guadalaxara, the 28th of February which details the following circumstances :*

“ We have just witnessed a phenomenon seldom experienced in regions distant from the coast. On the 20th of the month, the weather was rainy from the morning downwards, and the warmth was greater than is usual at the season. At three o'clock in the evening there was some lightning, accompanied with thunder, which soon ceased ; but at half-past six o'clock there suddenly arose a violent wind, like those which commonly precede in summer violent storms. There fell at the same time hail and rain



with the thunder and lightning. The heaven was brightened, and there only remained a black cloud, which increased instantly, in an extraordinary manner, discharged from its skirts, about a quarter before seven o'clock, such a flash of lightning, with such a clap of thunder, that the people who were in the streets, or in the country, fell to the earth frightened with the terrible noise, with the glare which struck their sight, and with the sulphurous smell which extended to the most retired recesses of their dwellings.

Some seconds afterwards there was another clap of thunder, not so strong as the former, and the cloud opening, discharged an immense globe of fire, which falling on the tower of the convent of Franciscans, overturned the iron cross on its summit, and set on fire the wood work, a portion of which, in a state of combustion, having entered the church, destroyed a part of it; while the rest descending by the walls, kindled the different doors and windows of the convent, broke, tore up, and divided the cells, overturned and destroyed the furniture which they contained, and excited such terror in the monks, who were in the choir that they fell to the earth, and would perhaps have been choaked by the sulphurous vapour which surrounded them, had they not immediately received assistance. This explosion was followed by a heavy fall of hail, which lasted more than a minute; after which the heavens recovered their serenity.



#### THE SCHOOL FOR THE DEAF AND DUMB

At Hartford, Con. has commenced its operations, and we think, bids fair to become a rich blessing to our country, and to humanity. It deserves, and needs, additional patronage.



RESULT OF METEOROLOGICAL OBSERVATIONS, MADE AT  
MIDDLEBURY COLLEGE, DURING THE YEAR 1816.

Months.	Highest.	Lowest.	Average. <i>a</i>	<i>a</i> This is the mean of three observations each day, taken at the hours 7 A. M. 2 and 9 P. M.
Jan.	46	—19	17.83	
Feb.	46	—16	22.78	
March	52	—14	25.86	
April	82	22	41.55 <i>b</i>	<i>b</i> Snow fell, on the morning of the 12th April, about 6 inches deep. It also snowed a little on the 13th, 15th, and 22d of this month.
May	75	32	50.68 <i>c</i>	
June	99	32	60.45 <i>d</i>	
July	92	34	65.52 <i>e</i>	
Aug.	92	43	65.72 <i>f</i>	
Sept.	82	32	56.90	<i>c</i> Heavy frosts were visible on the mornings of the 15th, 16th, and 17th of May, and snow was to be seen on the Green Mountains.
Oct.	76	28	48.48	
Nov.	72	2	38.53	
Dec.	47	—4	25.09	

*d* The Mountains west of Lake Champlain were white with snow on the first of June. On the 6th and 8th, a few flakes fell in this village. On the night of the 10th, we were visited with a severe frost.

*e* There was a frost on the morning of the 3th July. No rain, except a few drops, fell between the 15th June, and the 17th July.

*f* Heavy frosts occurred on the 22d and 29th August, which destroyed the crops of corn, beans, &c. It should be remembered that the state of the thermometer is not noted, when it is lowest, but, invariably, at 7 A. M.

Mean temperature of the year is 43.28.

THE COLD AT BALTIMORE.

The southern papers were, a few months since, filled with reports of the unprecedented severity of the cold in that quarter of the country, during the last winter. A correspondent in Maryland has favoured us with a register of the weather, for the month of January, kept at Baltimore. From this document, we learn, that the most intense cold experienced in that city in Jan. happened on the 18th of the month. The mercury in Fahrenheit's Thermometer then stood at 5 deg. above zero. At that time, the weather in this village was not extraordinarily severe. At no hour of the day did the mercury fall lower than 14 above zero. But on the 30th, when, at Baltimore, it stood at 9 above, it was, in this place, 20 below zero.



RESULT OF METEOROLOGICAL OBSERVATIONS, MADE AT  
WILLIAMS COLLEGE 1816.

*The times of observation are 7 A. M. and 2 and 9 P. M.*

Months.	Highest. Day of Mo	Lowest.	Day of Mo	Mean of the month.	The Wind.						Quantity of water.
					N.	W.	E.	N.	W.	E.	
Jan.	53 17	-13 25	14	21.03	24	7	4	3	8	1	1.748 Inch.
Feb.	48 25	-8	15	25.15	23	11	5	0	7	3	2.384
March	67 27	-6.33	18	29.35	23	9	4	0	8	1	2.172
April	80 30	26 25	3	42.68	25	2	5	0	6	0	1.629
May	78 1	33	18	52.81	24	7	8	2	3	3	3.548
June	90 23	35	7	60.83	22	7	5	1	6	0	3.672
July	90 16	43	9	64.64	23	5	6	0	11	0	2.131
Aug.	87 15	37.5	29	64.89	22	6	8	0	13	0	1.692
Sept.	85 8	25 3	28	55.02	24	5	2	0	8	1	1.098
Oct.	73 9	27.8	28	48.42	25	6	8	0	4	0	2.334
Nov.	71 4	5.5	26	39.73	21	6	8	0	8	1	2.705
Dec.	50 27	1	22	27.71	23	3	8	0	13	0	0.873
					279	74	71	6	95	10	25.986

Mean temperature of the year is 44.35

Mean of the highest and lowest means is 44.35

Mean of the highest and lowest temperature in each month is 44.95

At noon, June 24th, the temperature was 94.

Vegetables were killed or injured by frost in June, July and August.

The mean temperature of a spring, which issues on the south side of a rise of land of about 60 feet in height, is 48.4. The temperature was taken every month—was not lower than 48 degrees, and varied only one and a half degree in the year. The temperature of another spring, not far distant, but issuing under a much less rise of land, is 47.1, and has varied five degrees in the year.



The wind has been N. W. for 157 days. The table of winds shows, however, the course of the wind only for *once* in the day, if it blow all day from the same quarter; for *twice*, if the wind have changed; and *thrice*, if the course were different at each hour of observation.

The rain and snow have been accurately measured.— For the twelve lunations, ending Dec. 18th, there fell on the three twenty-four hours before and after the several quarters of the moon, the following quantities.

On the 1st 24 hours before and after new moon, 2.468 ;

First Quarter,	-	1.000 ;
Full Moon,	-	2.214 ;
Last Quarter,	-	1.553 ;
First 48 hours,	-	3.833 ;
First Quarter,	-	4.158 ;
Full Moon,	-	3.132 ;
Last Quarter,	-	4.456 ;
First 72 hours,	-	4.791 ;
First Quarter,	-	5.650 ;
Full Moon,	-	6.370 ;
Last Quarter,	-	7.205 ;

On the days of *apogee* and the day before and after, there has fallen 1.926

*perigee* 3.681

Only 03 inch fell at *perigee* of the *perigee*, which happened near the time of new moon.

The Aurora Borealis was seen only twice in the year.



